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Assessment of progress made on the implementation of the non-legally binding instrument on all types of forests and towards the achievement of the four global objectives on forests

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Report of the Secretary-General**

Summary

The present report consolidates and summarizes information voluntarily submitted by 55 States on actions taken and progress made towards implementing the forest instrument, the four global objectives on forests and the contribution of forests and sustainable forest management towards achievement of the Millennium Development Goals. In addition, the report draws on data from the Global Forest Resources Assessment 2010 prepared by the Food and Agriculture Organization of the United Nations (FAO) and provides an overview of collaborative activities undertaken by the secretariat of the Forum on Forests and FAO, including capacity-building workshops on national reporting, preparations for the reporting format of the tenth session of the Forum and pilot projects on the implementation of the forest instrument.

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** Issuance of the present report was delayed owing to the need to include updated information.

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I. Introduction

1. The present report responds to United Nations Forum on Forests resolution 7/1, in particular paragraph 1 (c) of the annex thereto, according to which the Forum is to hold a discussion at each session on the achievement of the global objectives on forests and the implementation of the non-legally binding instrument on all types of forests (hereafter referred to as the forest instrument). In paragraph 3 of its resolution on forests for people, livelihoods and poverty eradication, adopted at its ninth session, the Forum requested the Forum secretariat to develop a streamlined reporting format for its tenth session on the implementation of the forest instrument and balanced reporting on the four global objectives on forests, in consultation with other members of the Collaborative Partnership on Forests (see E/2011/42).

2. In paragraph 4 of the resolution, the Forum invited Member States and members of the Collaborative Partnership on Forests to initiate and support additional pilot projects and to continue to support the existing pilot projects on the implementation of the forest instrument in Ghana, Liberia, Nicaragua and the Philippines. Donor countries and other countries in a position to do so and members of the Partnership were also encouraged to make voluntary financial contributions to the Forum Trust Fund to enable the Forum secretariat to effectively assist, upon request, in the preparation of voluntary national reports. The Food and Agriculture Organization of the United Nations (FAO) was also invited to consider how it could further incorporate into the Forum's request for streamlined reporting on the state of the world's forests, including through the global forest resources assessment programme, the elements of the forest instrument and its global objectives on forests.

3. The present report draws from the voluntary national information submitted by 55 States, in accordance with the reporting template developed through extensive consultations with Government representatives and international experts during the period 2011-2012. The consultations were conducted jointly by the Forum secretariat and FAO through regional capacity-building workshops,[1] with the participation of 90 Forum and forest resources assessment national focal points from 60 countries. The agreed format was intended to complement other forest-related reporting processes and to provide data on the contributions of forests and sustainable forest management to the achievement of the Millennium Development Goals. Data from the Food and Agriculture Organization of the United Nations Global Forest Resources Assessment and from the pilot projects on the implementation of the forest instrument, founded by the Governments of Germany and Japan and implemented by FAO, were also incorporated into the report.

II. Background

4. In December 2007, the General Assembly adopted the forest instrument, as set out in the annex to its resolution 62/98, in order to (a) strengthen political commitment and action at all levels to implement effectively sustainable management of all types of forests and to achieve the shared global objectives on

[1] The workshops held in Bangkok (10-12 October 2011), Nairobi (13-15 December 2011), Accra (6-8 February 2012), Beirut (11-13 April 2012) and Santiago (18-20 April 2012) were jointly organized by the Forum secretariat and FAO.

forests; (b) enhance the contribution of forests to the achievement of the internationally agreed development goals, including the Millennium Development Goals, in particular with respect to poverty eradication and environmental sustainability; and (c) provide a framework for national action and international cooperation.

5. In section V, paragraph 5, of the forest instrument (resolution 62/98, annex), Member States reaffirmed their commitment to work globally, regionally and nationally towards the achievement of the four global objectives on forests by 2015. Moreover, they identified, in paragraphs 6 and 7, 25 national policies and measures and 19 actions related to international cooperation and the means of implementation in order to achieve the instrument's purpose. In paragraphs 8 and 9, they addressed the monitoring and assessment of progress towards achieving that purpose and the need for voluntary national reports as part of regular reporting on the instrument to the Forum.

6. Accordingly, countries have undertaken actions and have expressed increased interest in external cooperation to support their efforts to implement the forest instrument. In that regard, FAO, in close coordination with the secretariat of the Forum and with support from the Governments of Germany and Japan, has been working to improve the understanding by countries of the instrument. FAO, in cooperation with the Government of Germany and the National Forest Programme Facility, has supported pilot projects on the implementation of the forest instrument in four countries, starting with Ghana in 2008. By 2011, three new pilot project countries had emerged: Liberia, Nicaragua and the Philippines.

7. The four pilot project countries carried out participatory assessments of their own situations vis-à-vis the 25 national policies and measures agreed in the forest instrument. Such assessments involved a large number of different stakeholders at the local and national levels. Based on those assessments, each pilot country identified a number of policies and measures requiring priority action, according to areas where country performance was perceived to be weak. With support from the project, the countries engaged in capacity-building and other key catalytic activities to address the priorities. They also developed monitoring and evaluation systems for the implementation of the forest instrument. In addition, as at the end of 2012, technical and financial support had been given to China, Gabon, India, Mongolia, Nigeria, Swaziland and Zambia, following their expressed interest in receiving support for implementation of the instrument.[2]

8. In 2012, China and India organized national workshops with technical and financial support from FAO for capacity development in respect of the implementation and monitoring of the forest instrument. China established 12 pilot sites in different parts of the country to demonstrate and monitor its implementation.

9. Nigeria and Zambia are planning to hold national workshops for capacity development in January 2013. FAO is also supporting Gabon, Mongolia and Swaziland in organizing capacity development events.

10. Based on the experiences of the pilot countries, a capacity development module was designed to increase awareness of the instrument and to facilitate its

[2] Further information concerning the four pilot projects is available from http://www.fao.org/forestry/nfp/78462/en/.

implementation and monitoring at the national level. The module was used at the five regional capacity-building workshops organized jointly by the secretariat of the Forum and FAO in 2011-2012. Further cooperation by the secretariat and FAO is expected with countries in 2013 on capacity-building workshops and projects related to reporting and the forest instrument.

III. Procedural aspects of reporting to the Forum at its tenth session

11. At the time of reporting, the 55 submissions received by the Forum secretariat were from Afghanistan, Albania, Argentina, Armenia, Australia, Austria, Bangladesh, Canada, China, Costa Rica, Côte d'Ivoire, Cyprus, the Dominican Republic, Finland, France, Gabon, Germany, Ghana, Grenada, Guyana, India, Israel, Italy, Jamaica, Japan, Liberia, Madagascar, Malaysia, Morocco, Mozambique, Myanmar, Nepal, Nicaragua, the Niger, Nigeria, Norway, Panama, Papua New Guinea, the Philippines, Portugal, Saint Lucia, Saudi Arabia, the Slovak Republic, South Africa, Sri Lanka, Suriname, Switzerland, Togo, Trinidad and Tobago, Turkey, Ukraine, the United States of America, Venezuela (Bolivarian Republic of), Viet Nam and the State of Palestine.[3] This is the highest number of reports ever presented to the Forum.[4]

12. Only 10 of the countries submitted their national reports by the required deadline (30 September 2012). Most were received after the deadline, some in January 2013. Reports varied in length and the degree of detail. The secretariat therefore had limited time for a thorough analysis and synthesis, and the present report should be read with those limitations in mind. It should be regarded as an overview of the status of the implementation of the forest instrument and its four global objectives on forests.

IV. Summary of the national reports submitted to the Forum at its tenth session

A. Overview of the status of implementation of the forest instrument

13. The adoption of the forest instrument in 2007 reinforced the global commitment to the management, conservation and sustainable development of all types of forest as the overarching principle for forest policy at both the national and international levels.

14. Although negotiated and adopted more than six years ago, the provisions of the instrument are still highly relevant. Various activities and actions reported by countries follow the provisions set out in the forest instrument. In monitoring the provisions and measures contained in the instrument, countries have also tracked progress in implementing the four global objectives on forests.

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[3] Although the secretariat received 55 reports, 2 were not in the reporting format for the tenth session. Therefore, most of the information is based on the responses of 53 countries. Where feasible, the information from all the reports has been aggregated and used in preparing the present document.

[4] All the national reports are available from the Forum website, http://www.un.org/esa/forests/reports-unff10.html.

15. Countries are beginning to recognize the full potential of the instrument and its four global objectives and have taken these into account in the design and implementation of forest policies. This has been demonstrated in the various outputs of the activities of the Forum secretariat and FAO on implementation of and reporting on the forest instrument through the participation and engagement of countries in regional workshops and the interest that has been expressed in the pilot projects. In addition to the six official languages of the United Nations, the forest instrument has been translated by the following into their national languages: Afghanistan (Dari and Pashtu), Albania, Finland, Germany, India, Italy, Japan, Malaysia, Slovak Republic, Sri Lanka (Sinhala), Suriname and Turkey.

B. Forest instrument and the global objectives on forests

Global objective 1: reverse the loss of forest cover worldwide through sustainable forest management, including protection, restoration, afforestation and reforestation, and increase efforts to prevent forest degradation

16. Some progress has been made towards reversing the loss of forest cover at the global level. According to the FAO Global Forest Resources Assessment 2010, the world's total forest area is just over 4 billion hectares, which in equivalent to 31 per cent of total land area. While the rate of deforestation is slowing, it is still high, from 16 million hectares per year in the 1990s to an average of approximately 13 million hectares per year over the past decade. The highest deforestation rates and loss of forest cover remain in South America and Africa. Gains in forest cover have occurred in temperate and boreal zones, mainly thorough afforestation and the natural expansion of forests.

17. The total forest area of the 55 States that submitted reports to the tenth session of the Forum is approximately 1.5 billion hectares, which constitutes just over 37 per cent of the global forest cover. The aggregate data for those reporting countries show a positive trend in achieving global objective 1 since there has been a 0.3 per cent increase in forest cover between 2005 and 2010, according to the Global Forest Resources Assessments prepared for those years.

18. The progress in reversing the loss of forest cover is reflected in the numerous actions taken by the reporting countries towards the achievement of global objective 1. Many of the actions have been prompted by international commitments agreed through the United Nations Forum on Forests. Developments and/or enhancements of national forest programmes, national forest policies and forest legislation are clear examples of that trend. Since the adoption of the forest instrument in 2007, a majority of the reporting States (46 out of 53) have undertaken concerted efforts to strengthen their forest-related legislations, including law enforcement and governance in support of sustainable forest management.

Strengthening political commitment to sustainable forest management

19. Increased attention and interest in forests, at many levels, has been reflected in the various commitments of the reporting countries to sustainable forest management, in particular through the development and revisions of national forest policies, legislation and/or national forest programmes. According to the Global Forest Resources Assessment 2010, 75 per cent of the world's forests are covered by national forest programmes. This trend is supported by the information provided by

the reporting countries, 75 per cent of which indicated the existence of national forest programmes and nearly 90 per cent of which reported having specific national forest policies and laws.

20. Cross-sectoral cooperation between forests and other sectors has been reinforced and increasingly recognized as a crucial means to address and achieve national and international objectives related to forests. Almost all of the States (50 out of 53) reported having inter-institutional mechanisms for cross-sectoral cooperation so as to achieve sustainable forest management. The agriculture sector and issues related to climate change were the areas in which the countries reported most cooperation. Reported actions included the establishment of interministerial, inter-agency steering committees, and platforms and advisory councils that build participatory channels for discussion among relevant stakeholders. Several countries reported on interministerial strategies to manage natural resources as a whole, rather than forest resources specifically. The submitted reports indicate that forests issues are becoming part of a broader agenda and/or strategies related to the management of natural resources.

21. Actions and measures taken by countries to attain global objective 1 include the following:

(a) Canada practises sustainable forest management and requires by law that all forests harvested on public land must be successfully regenerated;

(b) Germany has passed laws at the federal and subnational levels demanding obligatory compensatory afforestation in the case of conversion or degradation of forests;

(c) Since 2009, China has implemented subsidy policies in support of forest tending, afforestation and the production of quality seeds. Through large-scale afforestation and forest resources protection, China has realized a large growth in forest cover, increasing by 61,688,400 hectares its total forest area between 1992 and 2012;

(d) India has also launched a programme to increase its forest cover through afforestation and agroforestry systems;

(e) Liberia has developed and is currently implementing a reforestation policy;

(f) Myanmar has designated a protected area system and an ongoing process for timber certification schemes in order to reverse its loss of forest cover and to reduce forest degradation;

(g) Japan has implemented various technology transfers and human resources developments in afforestation and forest management. It has revised its Forest Act to support the revitalization of forests and forestry and implemented measures to increase the capacity of forests to sequester carbon;

(h) Nepal has been implementing various forest-related programmes to reverse its loss of forest cover;

(i) Niger aims to increase its forest cover by about 15 per cent through its national forestry plan for 2012-2021;

(j) In 2012, Norway initiated a strategy on afforestation and increased reforestation, the protection of forests and forest land, the increased use of bioenergy and the increased use of wood to replace less climate-friendly energy sources and construction materials;

(k) As a result of South Africa's strategy on afforestation, 100,000 hectares of potential natural lands were identified for afforestation purposes;

(l) Togo aims to enable the afforestation of 5,000 hectares of forests per year with its new national forest policy;

(m) Every year, the forest area in Ukraine is increased by between 35,000 and 40,000 hectares;

(n) A number of countries, including Australia, Côte d'Ivoire, Ghana, Guyana, Japan, Myanmar, Nicaragua, Norway, Papua New Guinea and Suriname, reported having bilateral agreements and/or afforesation actions related to the enhanced mechanism for reducing emissions from deforestation and forest degradation in developing countries (REDD+).

Forest law enforcement and governance

22. Three quarters of the reporting countries have amended their forest legislation since 2007. Significant efforts have been taken by countries to combat illegal trade in forest products. The most commonly reported actions, for example, by Germany, Ghana, Guyana, Italy, Jamaica and Liberia, were linked to implementation of European Union legislation, such as the European Union Forest Law Enforcement, Governance and Trade Action Plan, the new European Union timber regulation, and the voluntary partnership agreements between non-European Union countries and the European Union.

23. Several countries provided examples of forest law enforcement and measures taken to enhance the trade of legal forest products. The United States reported on the amended Lacey Act (2008), which prohibits trade in wood and plant products taken in violation of domestic and international law. The United States also highlighted its engagement with the Experts Group on Illegal Logging and Associated Trade of the Asia-Pacific Economic Cooperation and the signing of bilateral agreements with several countries to combat illegal logging. Support for the wildlife crime working group of the International Criminal Police Organization was also mentioned.

24. Ghana reported on establishing legality assurance system regulations to guide implementation of the system and the issuance of licences under the Forest Law Enforcement, Governance and Trade Action Plan. Similarly, Nicaragua reported on regulatory mechanisms and actions to control the illegal traffic of forest products. Myanmar, Saint Lucia and Sri Lanka highlighted recent amendments in their forest legislation on forest protection.

25. The reporting countries also highlighted bilateral cooperation on forest law enforcement. Viet Nam, for example, reported on its cooperation with the Lao People's Democratic Republic, Cambodia, China and the Republic of Korea. Nepal reported on the launch of the South Asia Wildlife Enforcement Network, opening a new chapter in regional cooperation in South Asia for strengthening wildlife law enforcement.

26. In other reporting countries, protocols have been developed to determine the legality of timber and timber products found in the market. The harvesting of timber in the Philippines, for example, must be approved by Government agencies and be compliant with the provisions of the Convention on International Trade in Endangered Species of Wild Fauna and Flora. South Africa has been monitoring and controlling timber moving through its borders, in accordance with the Convention. Papua New Guinea is currently developing traceability and verification systems, and Japan is developing forest monitoring technology using satellite data and information exchanges with partner countries for a wood/log traceability system. Japan has also provided financial support to the International Tropical Timber Organization on illegal logging activities.

Global objective 2: enhance forest-based economic, social and environmental benefits, including by improving the livelihoods of forest-dependent people

Economic benefits of forests

27. From a purely economic point of view, timber, in particular industrial roundwood, remains the main viable source of income from forests. According to the Global Forest Resources Assessment 2010, the total value of forest product removals in 2005 was $121.9 billion, of which 71 per cent were from industrial roundwood, 15 per cent were non-wood forest products and 14 per cent were from fuel wood. According to the Statistics Division of FAO, the global export of all wood products, including all roundwood and processed products, in 2011 was around $246 billion. Globally, however, the social and environmental benefits of forests are gaining importance, as reflected in current national and international policy dialogues and the national reports on forests.

28. Globally, the area of forest for roundwood production, as a primary function, has been slowly but steadily decreasing, and countries are embarking on more processed and semi-processed forest products to generate more value-added goods and services. This has generated improved conditions for forest-based employment.

29. Moreover, according to the Global Forest Resources Assessment 2010, there has been an increase at the global level in the area of forests within protected areas, in forests managed for conservation of biological diversity (by almost 2 per cent between 2000 and 2010) and in forests managed for the provision of social services and cultural functions, which currently constitute around 3.7 per cent of the world's forests.

30. While timber products are easier to quantify in economic terms, putting a value on and calculating the revenue from the social and environmental benefits of forests has remained a challenge for many countries. Nevertheless, recently there have been cases that indicate progress towards natural capital accounting to measure the total value of natural assets through, for example, payments for ecosystem services. In that regard, a number of the reporting countries described the potential of payments for ecosystem services to enhance the economic, social and environmental benefits of forests. Over 30 per cent of the reporting States (16 out of 53) established some sort of mechanisms for payments for ecosystem services.

31. Seven countries were able to provide estimated figures related to payments for ecosystem services. The highest value for 2010 was reported by Costa Rica ($10 billion) and Japan ($310 million). Costa Rica reported on its national

programme of payments for environmental services, whose primary source of funding comes from a tax on fuels. Most prefectures in Japan introduced their own local tax systems to generate funding for sustainable forest management (forest environment tax). Nicaragua's national legislation established payments for ecosystem services related to water resources. Portugal reported having private sector voluntary agreements that provide payments for ecosystem services but not an established mechanism at the country level. The Prime Minister of Viet Nam recently issued an executive order for developing a policy on payments for ecosystem services, which currently focuses on hydropower plants, water and ecotourism. Papua New Guinea approved pilot projects to be developed under a REDD+ project that emphasizes conservation with carbon trading as the main commodity.

32. Several countries indicated that while there were many definitions, valuation methodologies and studies on payments for ecosystem services, there were not any internationally agreed terms and/or methodologies. In addition, data at the national level is scattered. Countries mostly reported that payments for ecosystem services schemes included compensations for agreed restrictions on land use, environmental taxes and schemes related to REDD+.

33. Austria developed compensation contracts on forests in protected areas between the Federal Ministry of Agriculture, Forestry, Environment and Water Management and private forest owners. Currently, there are 199 contracts amounting to $1.1 million annually for compensation. In Germany, the payments for ecosystem services measures are under the responsibility of the Laender (federal states), but data was unavailable at that level. Canada is exploring a comprehensive suite of services provided by nature, including forests, to ensure linkages in policy discussions and management decisions.

34. Ukraine reported that its State Forest Resources Agency was in the process of introducing the concept of "close-to-nature" forest management aimed at growing more persistent and productive uneven-aged mixed forests and increasing the use of shelterwood felling systems based on environmentally friendly harvesting technologies.

35. Japan reported on a number of institutional and management measures for enhancing the benefits of forests, such as efficient and stable forestry management bodies, coordination and consolidation of forestry operation units, and low-cost forest management systems based on a combination of forest road networks and high-performance forestry machinery use and the development of human resources in the forestry sector.

Livelihoods of forest-dependent people

36. Actions reported by countries to attain global objective 2 included programmes, projects and other activities benefiting forest communities and/or the creation of jobs in small forest-based enterprises. Owing to its decentralized nature, the forest sector provides benefits to those who are often the most vulnerable and in need, namely rural populations. Many Governments have come up with programmes, schemes and plans promoting rural empowerment and poverty eradication, and forests are part of that portfolio.

37. The role of forests and sustainable forest management in the fight against poverty has been increasingly recognized. Almost half (25 out of 53) of the reporting States revised their national poverty eradication plans and strategies in order to incorporate the elements of sustainable forest management, with a view to providing socioeconomic benefits to rural populations and local communities. Three quarters (40 out of 53) of the reporting States stated that their national forest programmes and relevant policies and strategies contributed to poverty eradication.

38. In the past few years, 600 home nurseries that employed rural communities were created in Afghanistan. Ghana launched a national forest plantation programme to implement a planting target of 10,000 hectares per year, with a view to generating employment for 10,000 people in rural areas. In order to accelerate afforestation, increase vegetation cover, and improve the ecological conditions in rural areas, China launched a project on returning farmland to forests, which benefited more than 32 million rural households, or 124 million farmers, and provided subsidies that accounted for 15 per cent of rural household income, on average.

39. South Africa developed and implemented successful programmes for small forest owners and, as a result, there have been about 2,000 new small growers of forests each year.

40. Over 90 per cent (49 out of 53) of the reporting States indicated that the user rights for indigenous peoples and local communities were recognized by law and that indigenous peoples/local communities were benefiting from the goods and services produced by forests.

41. The rural communities adjacent to State forests are supported by and are beneficiaries of existing forest policies and practices to varying degrees. Indigenous peoples and local communities are often involved in the management of forest resources. There has been a gradual shift from the traditional custodian role of forest departments to a more participatory approach in forest protection, conservation and development. For example, in Bangladesh, Madagascar, Nepal, the Philippines and the State of Palestine, communities are involved in the protection of forest biodiversity and in receiving benefits from forests for their livelihoods.

42. Local communities in Albania have been benefiting from a national biocarbon fund, based on reforestation activities and the rehabilitation of vegetation. Grenada's approach is to facilitate the sustainable livelihood opportunities provided by forest-protected areas without depleting the natural resources. Ghana and Madagascar have underlined the role of forests in ecotourism activities.

43. Côte d'Ivoire, India, Jamaica, Myanmar and Viet Nam reported on programmes for livelihood stabilization and security, especially for people who live near forests and/or in remote areas.

44. Turkey reported support for forest villagers and their livelihoods by providing individual and cooperative loans. So far, more than 400,000 families have been provided with loans worth over $1 billion.

Global objective 3: increase significantly the area of protected forests worldwide and other areas of sustainably managed forests, as well as the proportion of forest products from sustainably managed forests

Protection of forests

45. According to the Global Forest Resources Assessment 2010, the area of forests in protected areas worldwide was around 460 million hectares, which equals 12.5 per cent of the global forest area. The area of forests in protected areas increased from 1990 to 2010 by 94 million hectares.

46. The increasing trend towards protecting forest areas is reflected among the reporting countries whose protected areas constitute around 13 per cent of the total forest area. There was a 4.16 per cent increase in forests in protected areas between 2005 and 2010.

47. Many countries reported on the enactment of new or amendments of existing legislation related to the protection of natural resources and/or the establishment of new protection systems.

48. Several countries, such as Albania, Ghana, Japan, Nepal, Nigeria, Nicaragua, Myanmar, Suriname, Venezuela (Bolivarian Republic of) and Ukraine, reported increased protected areas comprising forests, and many provided quantified targets for increasing such areas and dates to achieve those targets.

49. Canada reported increasing the number and total area of protected forests. As at 2011, 9.9 per cent of Canada's land area has been protected. In the past 20 years, the total area protected has increased by 95 per cent and in the past 5 years it has increased by 19 per cent. Under federal jurisdiction, over 50 million hectares are protected, a 47 per cent increase since 1990. These areas include, but are not restricted to, forests.

50. Niger reported dedicating 14.3 per cent of its territory as protected areas. In Liberia, the Government has earmarked 30 per cent of the country's forest cover for conservation. Following the pledge under the "Caribbean challenge" campaign, Grenada reported that its Cabinet decided to protect 25 per cent of representative samples of marine and terrestrial ecosystems by 2020. Germany established a forest and climate fund to promote forest adaptation to climate change and a national biodiversity strategy, with the aim of setting 5 per cent of forest area aside.

51. All forests in Germany and Finland are either protected or managed in accordance with sustainable forest management principles. Similarly, all forests in Madagascar have been zoned so that they are either included in the system of protected areas or are under sustainable forest management.

52. Finland, Norway and the United States introduced voluntary protection systems for protected forest areas in privately owned forests, such as the Forest Biodiversity Programme for Southern Finland or a healthy forests reserve programme in the United States.

53. Cyprus, Côte d'Ivoire, Israel, Turkey and the United States reported new regulations and/or amendments to existing regulations with regard to protected lands. Guatemala, Guyana, Jamaica, Japan, Liberia, Nicaragua, Madagascar, the Philippines, Saint Lucia, Suriname and the United States reported on new programmes geared towards the improved protection of forests.

54. Nicaragua, Portugal and the State of Palestine reported on actions focused on forest fire prevention. Israel, the Philippines, Saudi Arabia and Turkey reported on activities linked to forest law enforcement.

55. Nigeria established a number of protected areas designed specifically for the conservation of forests. At the same time, however, owing to the lack of practical guidelines and management plans to regulate human activities in those areas, the country reported that progress in the conservation had been slow.

Progress towards sustainable forest management

56. In the Global Forest Resources Assessment 2010, countries were asked to report on the areas of forests considered to be under sustainable forest management. With no internationally agreed methodology on how to assess sustainable forest management, this was a pilot exercise in which countries submitted their best available data with national definitions and indicators on sustainable forest management. A total of 104 countries, accounting for 62 per cent of the world's forests, reported on the estimated areas under sustainable forest management for 2010.

57. There have been many positive trends at the global level, particularly in the past 10 years, but negative trends remain at the regional, subregional and national levels. While the area of planted forests has increased and conservation efforts are on the rise, the area of primary forests continues to decline since forests are over used or are converted for other uses.

58. A possible indicator for assessing progress towards sustainable forest management is the amount of forest area covered by management plans. In the Global Forest Resources Assessment 2010, 121 countries reported around 1.6 billion hectares of forest covered by management plans (around 52 per cent of the total forest area). It can be assumed that since not all countries submitted their reports that the figure could be much higher. Over recent years there has been a clear trend to increase the area of forests covered by management plans.

59. That trend is also reflected in the national reports. The area of forests under management plans among the reporting countries is slightly higher, around 54 per cent of the total forest areas reported.

60. Many actions reported by countries on attaining sustainable forest management and on progress towards global objective 3 were linked to forest certification and an increase in certified forests. At the global level, around 7.6 per cent of forests have been certified (Forest Certification Centre 2008), and the process is rapidly growing. The two main forest certification schemes are the Programme for the Endorsement of Forest Certification Schemes (247 million hectares) and the Forest Stewardship Council (168 million hectares).

61. Almost half (26 out of 53) of the reporting States indicated having areas with certified forests, mostly under the above-mentioned two main certification systems. In addition, Australia reported on the Australian Forestry Standard Limited, and Japan on the Sustainable Green Ecosystem Council.

62. In Australia, the majority of public native forests designated for multiple use are certified. Forest certification schemes play an important role in sustainable forest management on public and private forests, on native forests and plantations

and covering small (less than 10 hectares) to large (more than 3 million hectares) holdings. Canada had 150 million hectares of certified forest at the end of 2011. This is the largest area covered under third-party certification schemes (Canadian Standards Association, Forest Stewardship Council and Sustainable Forestry Initiative) in the world, representing approximately 40 per cent of the world's certified forest area.

63. The forest sector in South Africa has engaged in a national initiative to develop a South African certification standard to be accredited by the Forest Stewardship Council. The draft standards were submitted to the Forest Stewardship Council under their existing principles and criteria. A timber certification committee was established in Myanmar. Morocco's eucalyptus plantations have been certified by the Forest Stewardship Council, the certification process is under way and a national team has been established to carry on the work of adapting the Council's criteria and indicators to local conditions.

64. One of the most ambitious objectives of Viet Nam's forestry development strategy 2006-2020 is to certify at least 30 per cent of production forest areas, equivalent to 1 million hectares, by 2020. Germany reported on the use of public procurement policies to ensure that forest products came from sustainably managed forests.

Global objective 4: reverse the decline in official development assistance for sustainable forest management and mobilize significantly increased, new and additional financial resources from all sources for the implementation of sustainable forest management

Financing sustainable forest management

65. Public domestic funding was reported as the main source of funding for forests. Over 90 per cent of the reporting countries stated that they had Government budgets specifically for forests. Half of the countries reported having funding for forests spread among other sectors. The two main sectors receiving funding for forests were nature conservation and agriculture, followed by issues related to climate change, water and energy. A couple of countries also mentioned education, research and rural development. Several countries indicated that the forest sector received separate funding from the annual budgets of their Governments.

66. More than half (53 per cent) of the reporting countries were able to significantly increase financial resources for the implementation of sustainable forest management, and in the case of four countries (Afghanistan, China, Nepal and Suriname), the increase was over 100 per cent.

67. Many countries indicated that the main challenge faced in forest financing was governmental budget cuts across all sectors. Since the budget for forestry comes mostly from public funding, the forest sector is affected by the current global economic crisis. Other common obstacles reported by several countries were a weak institutional capacity to effectively capitalize on funding. More than ever, forest-related issues are becoming scattered and influenced by different sectors. Some developing countries reported weak institutional synergies and a lack of focused and coordinated approaches/mechanisms as being the major problems in securing funding. Other challenges included the lack of political attention given to the issue, owing to an underestimation of the full contribution (all goods and services) of the

forest sector to national economies, insecure land tenure preventing private investments, the complexity of the procedures for accessing funds at the international level and declining funds from international sources.

68. With regard to external funding, in particular official development assistance, among the reporting countries, 15 were donor countries and 26 recipient countries (12 countries did not specify). Data related to official development assistance seems to be sparse. Only seven countries were able to provide data on official development assistance related to forestry for 2007 and 2011. Among the donor countries that reported, five increased and four decreased their official development assistance. Canada and Norway increased their official development assistance for the forest sector by over 100 per cent. It is difficult to draw any conclusions on trends in official development assistance based on such limited information, and it appears that at the country level there is lack of coherent data on official development assistance for the forest sector.

69. Several donor countries provided additional information on funding and in-kind contributions towards forest-related programmes, with many geared towards forests and climate change/carbon funds. For example, $A 273 million International Forest Carbon Initiative is a key contribution to global action on REDD+, France is aiming at mobilizing €250 million to fight against deforestation under the United Nations Framework Convention on Climate Change and Switzerland reported a contribution of 17 million Swiss francs to the Forest Carbon Partnership Facility of the World Bank. Similarly, Canada has contributed US$ 41.79 million in fast start climate change financing in order to support climate change action in developing countries in the area of forests and agriculture.

70. Finland's contribution to international development funding in forestry is at the level of 4 to 5 per cent of total official development assistance. The actual expenditure was €31.5 million in 2010 and is expected to be around €45 million in 2012. Since 2007, Germany has further increased official development assistance for the conservation of forests and other ecosystems and will hold this at a level of €500 million per year. Japan's Green Fund, which consists of voluntary donations from individuals, groups, organizations and companies and was created to promote sustainable forest management and public awareness on the importance of forests, reached 2.5 billion yen in 2010.

71. For the United States, efforts aimed at mobilizing and increasing financial resources for forest management both domestically and internationally have been focused on leveraging partnerships and funding among the public and private sectors. In 2009, the country established a new bilateral United States Agency for International Development sustainable landscapes programme and new investments in multilateral finance mechanisms, as part of an international pledge of support for international forest conservation and REDD+.

72. Recipient countries reported on the domestic financial arrangements related to forestry and official development assistance. Ghana has mobilized significant foreign direct development assistance to support sustainable forest management. This has contributed to a substantial increase in official development assistance over the years. Under the current REDD+ initiative, there has been tremendous success in the mobilization of additional funding to support sustainable forest management, in particular to address forest degradation and deforestation. Government funding for sustainable forest management has increased in the past four years in Suriname.

Although official figures are not available, expert views indicate that while official development assistance declined during that period of time in Suriname, private foreign investment in sustainable forest management increased. In 2006-2012 official development assistance in Viet Nam also decreased.

73. Following are examples of various reported actions related to sustainable forest management financing:

(a) In 2011 alone, an equivalent of $11.7 million in forest revenue was collected by the Community Forest User Group fund in Nepal;

(b) Nicaragua's forest sector is now included in the credit programmes of Banco Produzcamos, which provides additional resources of up to $1.75 million for the establishment and management of forest plantations, sustainable forest management and community forestry;

(c) The forest authorities in Papua New Guinea are developing a framework for redirection of forest-based revenues, such as export taxes, levies and corporate taxes to the Forest Authority. The revenues will be used to fund improved forest management activities, with surplus provided as a dividend to the Government;

(d) In 2009, the President of Nigeria decided that 60 per cent of the Government's share of an ecological fund should be used for large-scale afforestation in the country;

(e) In 2011, Togo adopted a national forestry action programme, which has a financing strategy;

(f) South Africa's funding for sustainable forest management and various greening initiatives is supported by the private sector;

(g) In Ukraine, sustainable forest management activities are carried out under State and local budget sources, including from revenues derived from wood, wood products and services.

74. In Afghanistan, donor agencies and organizations, such as the United States Agency for International Development and FAO, provided major funding for the planning and implementation of sustainable forest management practices. Côte d'Ivoire forests are dependent on the State budget and external funding partners (mainly Germany). Myanmar reported that sustainable forest management-related projects were assisted by financial and technical support from Japan, the International Tropical Timber Organization and the Republic of Korea. Saudi Arabia is currently implementing a forestry project with financial and technical assistance from FAO ($3.5 million for 2011-2016).

C. Progress from a cross-cutting perspective

Capacity-building and technology transfer

75. Capacity development and the transfer of technology remain a serious challenge for many countries, and efforts are being made to address those challenges internally as well as with cooperation from the outside. Over half of the responding countries stated that they did not have adequate capacity and technology to implement sustainable forest management. The most commonly reported challenge was a lack of human resources, along with a lack of skilled professional staff in

various fields. Suriname reported that there was a structural lack of forest-related technical personal capacity at all levels in the country, that the lack of professional foresters presented an obstacle to adequate implementation of sustainable forest management by most of the forest companies and that students were not interested in making careers in forestry. That message was echoed by several countries. Others reported that obstacles included a lack of technology for forest monitoring and inventories, a lack of methodologies for valuation and payments for ecosystem services, weak governance and a lack of financing.

76. Close to 80 per cent of the reporting countries were involved in sustainable forest management-related technology transfers. A total of 18 countries identified themselves as donors and 31 as recipients of sustainable forest management-related technology. Technology transfers took different forms: multilateral projects, exchanges of experts and training that involved international organizations and donor countries. Frequently reported themes included mapping, monitoring and forest inventory systems, remote sensing technologies, projects on rehabilitation and afforestation, technologies in carbon stock enhancement, desertification and communal forestry/participatory approaches.

77. Three quarters of the countries reported having different forms of incentives to promote improved technologies for sustainable forest management. Some, such as China, Gabon, Ghana, Japan, Saint Lucia and Switzerland, stated having various incentives, including certification schemes, tax breaks, subsidies and low-interest loans. Overall, however, certification schemes seemed to be the most common form of incentive among countries.

78. France and India mentioned that specific research institutes contributed to the improvement of technologies and provided training for sustainable forest management. In order to finance new technologies, technological innovations and infrastructure for technological innovations, Nicaragua established a special forest development fund. Papua New Guinea reported that the Government did not impose a tax on processed timber products. Any equipment imported from outside the country for processing timber was exempted from tax.

79. In the Philippines, the Development Bank offers low-interest loans for plantation development, and the Board of Investment provides incentives for private investors interested in engaging in industrial forest management agreements. Forest products obtained/derived within plantations covered by the agreements are free of forest charges, which are fees levied from industries and paid to the national Government for every cubic metre of timber or for other forest products.

Stakeholder participation

80. Almost all the countries (97 per cent) reported having programmes involving stakeholders in the formulation, planning and implementation of sustainable forest management policy. A vast majority reported having programmes at the national, subnational and local levels. Many provided detailed descriptions of existing mechanisms, forms and legislation with regard to public participation in developing and implementing forest policies/management plans.

81. Many countries reported following plans similar to Italy's, with the territorial forest plan being the most suitable management tool when considering the sustainability of the relationship between humans and forests and when

guaranteeing the safeguarding of community interests towards forests. The Philippines referred to public participation as a central tool for the successful implementation and pursuit of sustainable forest management. In Bangladesh, there has been a gradual shift during the past two decades from the traditional custodian role of the forest department to a more participatory approach in forest protection, conservation and development.

82. Cyprus reported the establishment of a forest advisory body comprising representatives from several governmental and non-governmental organizations and agencies. The current Papua New Guinea Forestry Act provides that all relevant stakeholders must participate in the harvesting and management of the country's national forest resources. In Ghana, national, regional and district forestry forums have been established with representation from all the relevant sectors. In Grenada, the public involvement is predominantly through mechanisms that include community meetings; engaging schools; involving non-governmental organizations and other key institutions; national plant distribution plans for planting on specifically designated environmental days; and television programmes that promote best practices in sustainable forest management. In Japan, public hearings broadcast through websites and at expert consultation meetings serve to reflect public opinion during the development of a "basic plan for forest" and forestry, which will set policy direction on maintaining the multifunctionality of forests and on achieving sustainable and sound development practices in forestry. Liberia and Nicaragua established national multi-stakeholders steering committees.

Enhanced international cooperation

83. Over 90 per cent (48 out of 53) of the reporting States indicated that they were engaged in international cooperation on sustainable forest management, and all the countries indicated that they would like to see more cooperation. Thirty-one countries indicated engagement in North-South cooperation and 21 in South-South cooperation. Most other areas of cooperation mentioned were linked to law enforcement (Forest Law Enforcement, Governance and Trade Action Plan), European Union voluntary partnership agreements, climate change/REDD+, livelihoods and poverty reduction. Valuation of ecosystem services provided by forests was indicated by 49 countries, followed by biodiversity; and forest degradation and rehabilitation (equally 46 countries); and monitoring and assessment of forests.

Public-private partnerships

84. The trend for using public/private partnerships to achieve sustainable forest management seems to be growing. Eighty per cent of the reporting countries reported having some form of participation mechanisms to engage the private sector, and 75 per cent indicated having established or strengthened public/private partnerships to advance sustainable forest management. Most Governments have realized the benefits of public/private partnerships and are supportive of private sector involvement and creating an enabling environment wherein the private sector can work jointly with the public sector in forest management, and the processing and trading of timber. The extent of engagement depends on the ownership of the public/private structure; however, even in countries where the Government owns the forest resources there is an outsourcing of forest management to private entities.

85. The partnerships take many different forms, including:

(a) Multi-stakeholder groups and round tables on sustainable forest management were reported by Nepal, Nicaragua and the United States;

(b) In Australia, the Forest and Wood Products Council, a high-level forest industry advisory body to the Minister for Agriculture, Fisheries and Forestry, acts as a means of liaison between the Minister and stakeholders in the forest and wood products industry;

(c) Most of Canada's forests are harvested by private companies; meetings between the Government and industry therefore occur on a daily basis in managing publicly owned lands;

(d) Finland and Portugal, where a majority of forest land is owned by private entities, emphasized the crucial role of the private sector in the implementation of sustainable forest management;

(e) Liberia reported on collaboration with all Government institutions, private organizations and civil society in policy decision-making at the regional and national levels;

(f) The Government of Papua New Guinea, jointly with the industrial sector, implements donor-funded projects promoting the legal harvesting and trading of timber;

(g) Rehabilitation programmes of degraded forest reserves in Ghana are implemented through public/private partnerships.

Science and research

86. Close to 40 per cent (21 States out of 53) reported funding designated for forest-related research. Of those countries, 14 had increased the funds geared towards science and research and 6 had decreased them. They indicated that the main source of funding came from the public sector. More than three quarters of the countries reported having institutes promoting the development and application of scientific and technological innovations for sustainable forest management, and 60 per cent reported having special extension programmes for promoting the use of scientific and technological innovations directed at forest owners, local and indigenous communities and other stakeholders. With regard to funding for science and research, Cyprus, Suriname and the United States mentioned difficulties in providing specific data, owing to the fact that many activities and programmes are funded and executed by the private sector and/or local communities. Liberia and Madagascar reported that almost all research activities were funded and conducted by local and international non-governmental organizations.

Public awareness and education

87. A majority of the countries highlighted the importance of raising awareness within the general public of the importance of forests in order to mobilize support for sustainable forest management and its contributions, including to economic development, employment, income, poverty alleviation and environmental sustainability. The recently concluded International Year of Forests, 2011, helped to amplify existing awareness, promote national activities and provide a global platform for sharing success stories. Nearly all (51 out of 53) of the States reported

having organized events and activities in celebration of the Year. The Year provided an opportunity for civil society engagement and public events, helping to raise the profile of forests in public debates and in political considerations at the national level (see E/CN.18/2013/9 for further details).

V. Contribution of forests to the achievement of the Millennium Development Goals

88. The national reports have provided the Forum with a first-hand baseline assessment of the contribution of forests and sustainable forest management to the achievement of the eight Millennium Development Goals.

89. Under Goal 7, on ensuring environmental sustainability, the current Millennium Development Goals framework contains one official forest-related indictor (indicator 7.1) on the proportion of land area covered by forests. While the indicator provides a quantitative description on forest cover, it lacks a measurement for other important environmental services and functions and does not reflect the full range of socioeconomic benefits and services that forests provide.

90. In order to facilitate country reporting on the contributions of forests to the Goals, the Forum on Forests, at its tenth session, requested that the reporting format include information on how sustainable forest management contributed to specific Goals at the country level and on the indicators and data used.

91. Countries provided evidence-based analyses of the added value and significant contributions of forests and sustainable forest management to poverty eradication, sustainability and broader international development goals. The examples provided by the reporting countries revealed the potential of sustainable forest management and the forest sector in generating employment and supporting cross-sectoral solutions to address poverty-related challenges, including education and health issues in rural areas. The highest response rates were linked to Goal 7 (45 States out of 53), Goal 1 (33 States) and Goal 8 (28 States).

92. Response rates, however, varied considerably. For example, of the 16 developed countries that submitted reports, the vast majority responded solely to Goal 7 and a few to Goal 8. Only one responded positively to Goal 1. Explanatory notes were provided by two countries (Australia and Canada), stating that their commitments towards the achievement of the Goals were associated with work related to international development cooperation.

93. On the other hand, the response rate from developing countries was highest in respect of Goal 1, almost 90 per cent (33 out of 38 developing countries).

94. The lack of indicators and data on forests and livelihoods, and other socioeconomic aspects of forests were emphasized by several countries.

Goal 1: eradicate extreme poverty and hunger

95. Nearly 90 per cent of the reporting developing countries noted how forests and sustainable forest management contributed to poverty reduction, assisting the most vulnerable people in managing their households. The reports indicated high value ratings (for example, "significant" and/or "crucial") to the role and contribution of

forests and sustainable forest management to poverty reduction and provided quantitative data supporting the statements, as in the following examples:

- Niger reported that 90 per cent of its country's household energy came from fuelwood, while 64 per cent of Nepal's population depended on fuelwood for cooking.
- Close to 85 per cent of Papua New Guinea's population lived in rural areas and depended heavily on forests for their survival.
- 70 per cent of Nigerians lived and worked in rural areas and relied on forests for their livelihoods, including income from jobs offered by the forest sector.
- More than 60 per cent of forest workers in Suriname were members of forest communities, which were the least wealthy people in the country.

96. All in all, forests were referred to by many as "safety nets" for the rural poor, through their provisions of fuelwood and a variety of non-wood forest products. In the past, non-wood forest products, including fuelwood were used for individual household purposes. However, recent information reveals a rise in such products in the informal sector market, for additional cash income.

97. Employment opportunities provided by forests were equally emphasized. Opportunities in forestry-based jobs as well as the direct contribution of forests to food security were considered critical to the livelihoods of the rural poor. The decentralized nature of the forest sector was underlined, referring to the fact that, for communities living on fringes of forests and often in such remote areas, forests provided the only possible source of employment, shelter, food and medicine.

98. The critical cross-sectoral connections between natural resources sustainability and poverty and hunger eradication were also highlighted. Recognition was given to agroforestry systems, which, in the rural communities of Ghana, the Philippines and the State of Palestine, are contributing to the enhancement of food security. Along those lines, Grenada, Myanmar and Saint Lucia emphasized the critical role of forests in safeguarding high-quality water resources for fundamental domestic use, including cooking and drinking, in rural areas. The grazing capacity provided by forest lands was mentioned. Roads and social infrastructure systems (for example, clinics, health facilities and schools) supported by forest companies were also mentioned.

99. National indicators to assess the contribution of forests to Goal 1 were listed by most countries; however, quantitative data are missing. The most common indicators reported by countries included:

- Proportion of households whose livelihoods and economies depended on forest goods and services
- Proportion of households depending on charcoal and/or fuelwood as a source of energy
- Employment generated in forest-based enterprises
- Family and community incomes from non-wood forest products
- Infrastructures (local clinics, schools, bridges, roads) sponsored by forest companies in remote areas

- Agroforestry systems, including indigenous technologies adopted in community-based forest management areas

Goal 2: achieve universal primary education

100. Over 50 per cent of the developing countries stated that sustainable forest management and forests contributed to the achievement of Goal 2, describing the interlinkages between natural resources, employment, infrastructure and education. For example:

(a) Afghanistan, Grenada, Guyana, Madagascar and Papua New Guinea reported on how employment opportunities in forests had allowed parents to be compensated for childcare and education needs;

(b) Guyana, Nigeria, Suriname and Venezuela (Bolivarian Republic of), emphasized the contributions of infrastructure, such as roads and schools, sponsored by forest companies;

(c) In India, forestry institutions were reported to play a significant role in promoting primary and informal education in remote forested areas where access to education was not adequate;

(d) Liberia recognized contractual agreements signed with investors in the forest sector to ensure the provision of social services, including education, to forest-dwelling communities located close to operational sites. Similar arrangements were reported by Suriname, where logging companies are required to build schools, donate school materials and transport facilities for children of forest-dwelling communities;

(e) The Village Development Fund in Niger is funded by revenue from the forests and managed by communities. Local forest management groups use the funds for the construction and maintenance of schools and the purchase of supplies for students;

(f) The role of forests as green schools was highlighted in the reports of Saint Lucia and the State of Palestine. In the case of Saint Lucia, ecotourism was reported to have helped not only to support educational activities but also to provide a major boost for rural employment and the local economy.

101. The most common indicators for Goal 2 included the:

- Number of children in forest dependent families
- Number of children at the primary education level with parents employed in the forest sector
- Increased infrastructure (schools, bridges, roads) in remote areas by forest companies

Goal 3: promote gender equality and empower women

102. Almost 70 per cent of developing countries (26 out of 38) reported on Goal 3. The role of equal employment and training opportunities from the forest sector were highly recognized as an avenue for the empowerment of women. Forest-related policies also enhanced gender equality in forest management and decision-making

processes. In Nepal, for example, community forestry implementation guidelines required 50 per cent participation by women in decision-making bodies.

103. There were many examples of the role of women in forest-related activities, which are often the only source of income for families in remote areas, including:

- In Afghanistan, women carried out activities linked to afforestation and forest nurseries
- In Ghana, women are engaged in harvesting and collecting shea nuts
- Ecotourism activities in Saint Lucia, agroforestry in Papua New Guinea and harvesting of non-timber forest products in India depended on women

104. Family forestry is slowly gaining popularity for cash income-generation in rural areas of Papua New Guinea, and women are active partners. Family forestry practices, in which women are at the forefront, are replacing agricultural crops with forestry crops to restore soil fertility and provide protection from disease and pest infestations. The role of women in the forestry sector and their contributions to poverty alleviation continue to be underacknowledged. At the same time, in situations where forest resources become scarce, women play a vital role in maintaining and improving standards in rural households.

105. The most common national indicators listed by countries included the:

- Proportion of women who depended on forests products for livelihoods
- Proportion of women employed in the forestry sector
- Number of women with educational degrees in the forestry sector
- Average wages of women in the forest sector compared with those of men

Goals 4, 5 and 6: reduce child mortality; improve maternal health; and combat HIV/AIDS, malaria and other diseases

106. Around 40 per cent of the developing countries reported on Goals 4, 5 and 6. The information submitted for those Goals were similar, and in some cases, overlapping.

107. Several countries emphasized the contribution of forests, specifically non-wood forest products, such as fruits, berries and bushmeat, as sources of protein and keys to healthy and balanced diets. Ghana, the Niger and Papua New Guinea reported that for many forest-dwelling and forest-dependent communities, the forest constituted their main source of medicine. Traditional herbs and medicinal plants from forests were regularly used to help maternal health and to reduce child mortality.

108. Approximately 28 million people use medicinal plants in South Africa, and over 65 per cent of the medicinal plants in urban markets come directly from forests or savannah species. Moreover, according to the reporting countries, about one third of medicinal plant material comprises tree bark. Modern research breakthroughs on drugs for HIV/AIDS and other major diseases rely heavily on forest genetic resources.

109. The following examples are relevant to Goals 4, 5 and 6:

(a) The role of forests in providing high-quality safe drinking water, which in Grenada and Saint Lucia has had a significant impact in the reduction of water-related diseases, and has contributed to reducing child mortality and to general improvements in the overall health among rural communities;

(b) Nigeria and Guyana emphasized the role of infrastructure supported by forest-based companies, such as medical facilities and roads, which have facilitated access to health care.

Goal 7: ensure environmental sustainability

110. Over 80 per cent of the developing and developed (44 out of 53) countries reported on Goal 7. As the Goal most reported on, it highlighted the key regulatory role of forests in global carbon and water cycles and the protective functions provided by forests for endangered species habitats. Many countries also provided details on their afforestation programmes and forest protection plans, where sustainable forest management provided the institutional framework and practices for the provision of ecosystem services from forests.

111. Following are examples of activities related to Goal 7:

(a) Austria and Portugal referred to all three pillars of sustainable forest management (economic, social and environmental) and to the interrelations among them, their equal importance and direct and countless contributions to human, economic and environmental security;

(b) Bangladesh, Jamaica and Nepal described ongoing efforts to increase their current forest areas;

(c) Countries with low forest cover stressed the role of sustainable forest management in reducing pressure from illegal logging, firewood-gathering, overgrazing, droughts and the conversion of open woodlands to marginal dryland farming and other factors. Sustainable forest management was reported as being effective in reversing the trend of forest degradation in areas where it had been implemented through community-based forest management;

(d) Protective functions of forests were emphasized, in particular by small islands and countries with a high percentage of mountain forests.

112. In order to assess progress towards Goal 7, the countries made use of national forest inventories and international and national sets of criteria and indicators for sustainable forest management. A majority of the countries reported using indicators on forest resources (area, volume) and their protective functions. Member States of the Montreal Process (for example, Australia and Japan) and of Forest Europe (for example, Italy, Norway and Portugal) made use of the criteria and indicator sets agreed within those processes. References were made to forests as carbon sinks and the specific sustainable forest management measures allowing the sequestering of more tons of carbon dioxide per year. The most commonly mentioned indicators included:

- Percentage of forest cover
- Area of forests under sustainable forest management

- Carbon storage in forest stands and carbon sequestration through harvested wood products
- Quality of freshwater supplies from forest areas
- Endangered forest-related species and protected forest areas
- Areas of forests managed for protective functions

Goal 8: develop a global partnership for development

113. Over 50 per cent (28 out of 53) of the developed and developing countries reported on Goal 8. Several countries reported their signatory status to international multilateral environmental agreements, including the Convention on Biological Diversity, the United Nations Framework Convention on Climate Change and the United Nations Convention to Combat Desertification, and provided descriptions of forest-related projects and activities implemented with international donors and agencies, including the Association of Southeast Asian Nations, the Department for International Development of the United Kingdom, the Finnish International Development Agency, the Swedish International Development Cooperation Agency and the German Agency for International Cooperation. Additional examples included:

(a) Guyana and Suriname emphasized foreign investments in the forest sector;

(b) Ghana and Portugal reported the contributions of the forest sector to national Gross Domestic Product;

(c) Grenada and Saint Lucia stressed the importance of increased international attention to forests and the new strategies and programmes currently being developed within the frameworks of various international bodies. For example, Grenada has implemented sustainable forest management activities consistently within the elements of the programmes of work of the various related United Nations conventions and hence has contributed to the development of a global partnership for development;

(d) India underlined the cross-sectoral nature of sustainable forest management and its broad scope for integration within development programmes, which could be used to create global partnerships for sharing experience, knowledge and best practices;

(e) Papua New Guinea emphasized the increased role of forests and sustainable forest management in enhancing dialogue with civil society and in improving governance and market connectedness in globalized economic systems.

VI. Conclusions

114. Countries provided valuable information on how they have implemented policies and measures from the forest instrument, and to which extent. It is noteworthy that the total number of national reports received for the tenth session of the Forum is more than triple that of the previous two sessions.

115. Many of the instrument's provisions and measures are being taken into account in the design and implementation of national forest policies and dialogues. The

submitted information has enabled assessment of the progress made towards achieving the global objectives on forests.

116. There was a 0.3 per cent increase in forest cover between 2005 and 2010 in the 55 reporting States, indicating progress in reversing the loss of forest cover (global objective 1). This trend, however, does not reflect a global picture. Not all of the reporting countries have increased their forest cover.

117. Countries reported many actions with regard to global objective 2. The reports demonstrated that increasing attention was being given to the social and environmental benefits provided by forests. Examples provided by countries clearly demonstrated the direct contribution of forests to combating hunger and promoting poverty reduction and other Millennium Development Goals. One of the challenges in this area was the lack of socioeconomic forest-related data; there is a clear gap of information on demographic trends linked to populations in forested areas as well as on the benefits to forest-based livelihoods and other related social dimensions. While the role of payments for ecosystem services mechanisms was noted, coherent data at the national level are missing. Since the full scope of contributions from forests is undervalued, and the socioeconomic benefits are particularly difficult to measure, the role of sustainable forest management in meeting broader development goals is greatly underestimated.

118. Progress has also been made towards global objective 3, with indications that the area of protected forests is steadily increasing. The area of certified forests is also rapidly increasing. While conservation efforts are on the rise, however, the area of primary forests continues to decline.

119. It was difficult to assess official development assistance trends for sustainable forest management, based on the submitted information. However, data presented in the 2012 study on forest financing by the Advisory Group on Finance of the Collaborative Partnership on Forests showed a significant increase in official development assistance disbursements linked to global objective 4. Since funding for forests comes mostly from public sources, current budget cuts (across all sectors) and the global financial and economic crisis have been the main challenges to mobilizing funds for sustainable forest management.

120. Information reported by countries on forests and the Millennium Development Goals provided further evidence that forests and sustainable forest management make significant contributions to attaining international development goals. In addition, countries reported on assessment tools and indicators that will provide a useful basis for the next reporting cycle, in 2015, when the Forum will assess the international arrangement on forests.

VII. Recommendations

121. **In view of the progress made in the implementation of the forest instrument and the growing awareness, interest and relevance of the instrument in national forest policies and programmes and international cooperation, the Forum may wish to:**

(a) **Request the secretariat of the Forum to convene a technical expert group, among countries and international and regional organizations, to plan the reporting methodology for the eleventh session of the Forum, in 2015, on**

the review of the effectiveness of the international arrangement on forests and to utilize the facilitative process to focus on that issue;

(b) Further encourage countries, member organizations of the Collaborative Partnership on Forests, international and regional organizations, and major groups, to initiate and support capacity-building activities, at different levels, to implement, monitor and report on the forest instrument;

(c) Further encourage countries to strengthen cross-sectoral coordination and interministerial cooperation, building on existing mechanisms where applicable, to advance implementation of the forest instrument;

(d) Invite FAO and the secretariat of the Forum to continue their collaborative activities on the implementation of the forest instrument, to assist countries in reporting progress, and to welcome initiatives to pilot the implementation of the forest instrument;

(e) Request the secretariat of the Forum to organize regional capacity-building workshops to support the efforts of developing countries and countries with economies in transition to prepare voluntary reports for the eleventh session of the Forum and call upon donor countries to support those activities;

(f) Request the secretariat of the Forum to facilitate and catalyse, with member organizations of the Collaborative Partnership on Forests and other international and regional organizations, the further incorporation of the provisions of the forest instrument and the global objectives on forests in their work programmes on forest-related financing mechanisms, organizations and initiatives;

(g) Request additional voluntary contributions for the Trust Fund for the United Nations Forum on Forests by all countries in order to support the efforts of the Forum secretariat in preparing the analytical consolidated reports and other background materials requested by the Forum for its eleventh session, to be held in 2015.

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Item 4 of the provisional agenda*
Regional and subregional inputs

Regional and subregional inputs

Report of the Secretary-General**

Summary

The present report highlights the actions taken to foster progress towards the implementation of the non-legally binding instrument on all types of forests (forest instrument) in the context of the overall theme of the tenth session of the United Nations Forum on Forests "Forests and economic development"; progress towards achievement of the four global objectives on forests and the Millennium Development Goals; and characteristics of regional and subregional cooperation and partnerships in facilitating cooperation in sustainable forest management, including North-South, South-South and triangular cooperation.

* E/CN.18/2013/1.

** The delay in the issuance of the present report was due to the need for extended consultations.

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I. Introduction

1. The multi-year programme of work of the United Nations Forum on Forests for the period 2007-2015[1] set a new focus on regional collaboration and partnerships. Since its eighth session, in 2009, the Forum has solicited inputs from relevant regional and subregional forest-related mechanisms, institutions, organizations and processes as an integral part of session deliberations.

2. At its ninth session, the Forum invited regional and subregional organizations to strengthen their contributions to the work of the Forum and to provide input, in the context of the overall theme of its tenth session, on their efforts towards implementation of the non-legally binding instrument on all types of forests (forest instrument) and its four global objectives on forests,[2] by sharing regional perspectives, approaches and experiences as well as regional activities on North-South, South-South and triangular cooperation on sustainable forest management.

3. In order to facilitate the submission of regional and subregional inputs for the current session, the Forum secretariat prepared an information note and developed a reporting format. The present report summarizes the submissions received from the entities listed in the annex to the report.

II. Overview

4. The various entities listed in the annex used the reporting questionnaire sent out by the Forum secretariat to prepare their responses. A few responses were based on the results of specific meetings organized by the entities to discuss their contributions. The Forum secretariat received 14 regional and subregional responses. Most reveal that the forest instrument and the four global objectives contained therein are being taken into account in the design and implementation of forest-related policies. The reports submitted highlight regional and subregional perspectives on efforts towards the implementation of the forest instrument and the four global objectives.

5. Regarding economic, social and environmental measures, the responding regional and subregional entities revealed that forests benefit the people who depend on them for their livelihoods. However, progress differed among the reporting entities. Challenges highlighted included lack of adequate funding for activities that increase political commitment and generate information necessary for sustainable forest management, and weak Forest Law Enforcement and Governance structures.

[1] See E/2007/42-E/CN.18/2007/8, chap. I, sect. C, resolution 7/1, annex.

[2] See General Assembly resolution 62/98, annex.

III. Substantive matters to be considered by the Forum

A. Assessment of progress towards the implementation of the non-legally binding instrument on all types of forests in the context of the overall theme "Forests and economic development"

6. Responses revealed that the entities were committed to promoting sustainable forest management and were aware of the importance of strong political commitment in implementing the forest instrument. In an effort to foster political commitment to sustainable forest management, the African Forest Forum serves as a platform for forest stakeholders on the continent. The Forum continued to support African delegates, technically and logistically, to participate in various meetings and other forums that deal with the forest instrument and on financing its implementation. The Forum also continued to foster political commitment for sustainable forest management by providing sound and reliable scientific and technical information that guides decision-making and technical application in respect of forest and tree management in Africa.

7. The national forest policies, strategies and plans of many countries in Africa contain elements of the forest instrument. For instance, the East African Community adopted common policies for, and promoted the exchange of information on the development, conservation and management of natural forests, commercial plantations and natural reserves. However, challenges encountered in implementing those policies include uncoordinated institutional efforts, conflicting institutional mandates, and administrative and bureaucratic procedures. At the same time, support for reducing emissions from deforestation and forest degradation (REDD+) has enabled countries to address implementation of the forest instrument through climate change support programmes, national forest programmes, and programmes relating to the Convention on Biological Diversity and the United Nations Convention to Combat Desertification. Countries have also linked their national forest plans to overall national development plans and programmes, thereby linking forests to poverty eradication, employment creation, environment protection, and raising national incomes. In Africa, there are currently a number of pilot projects aimed at enhancing forest-based economic development. Various organizations have established sustainable supplies of hardwood from certified well-managed forests. The adoption of the forest instrument at the global level has given a new twist to sustainable forest management in the Congo Basin by supporting the implementation of the Treaty on the Conservation and Sustainable Management of Forest Ecosystems in Central Africa, and to Establish the Central African Forests Commission (COMIFAC).

8. In the Asia-Pacific region, despite increased recognition of the unique role forests play in socioeconomic development, agreement has not been reached on unified standards and approaches for sustainable forest management, which impedes the fulfilment of the political commitment on the ground. There is a need to follow up on the strong political commitments that have been made. The Asia-Pacific Network for Sustainable Forest Management and Rehabilitation remains committed to promoting sustainable development in the Asia-Pacific region and values regional high-level cooperation mechanisms and endeavours as opportunities to address sustainable forest management. In June 2011, the Network organized the Asia-Europe Meeting Symposium on Sustainable Forest Management to Address Climate

Change, which included discussions on actions taken by each Government to promote sustainable forest management; the significance of applying sustainable forest management to address climate change; and best practices in sustainable forest management and their effect on climate change mitigation in each country. The Asia-Europe Meeting is an informal process of dialogue and cooperation that brings together the 27 member States of the European Union, 2 European countries, the European Commission, 20 Asian countries and the secretariat of the Association of Southeast Asian Nations (ASEAN). The dialogue addresses political, economic and cultural issues, with the objective of strengthening the relationship between the two regions, in a spirit of mutual respect and equal partnership. In September 2011, the Asia-Pacific Network organized and supported the Asia-Pacific Economic Cooperation (APEC) Forestry Ministerial Meeting. This was the first-ever meeting of ministers responsible for forests; it was attended by 21 APEC member economies, heads of State, international organizations and Chief Executive Officers from the private sector. The ministers adopted the Beijing Statement on Forests and Forestry, which outlines further cooperation on forests and the Network's potential in forming synergy among the multiple stakeholders in the region.

9. In the Pacific subregion, forests and trees are vital to the well-being of the people. Nevertheless, forests and trees continue to be converted and degraded as populations and the consequent need to satisfy socioeconomic development demands increase. The inability to allocate sufficient funding for Pacific island countries to implement programmes and activities towards sustainable forest management remains a challenge. In response to this challenge, as part of its core programme, the secretariat of the Pacific Community initiated in 2000 a regional resource-mobilizing effort focused on capacity development for sustainable forest management. In pursuing this regional approach, the Community acts as the regional focal point for forests and trees, effectively coordinating with other development partners, to avoid duplication of efforts and enhance synergies, working towards deepening partnerships and collaborations. In line with the objectives of the strategic plan for its Land Resources Division, the organization continues to support national forest policy formulation and review.

10. The permanent secretariat of the Amazon Cooperation Treaty Organization facilitates the regional cooperation processes among its member countries, having developed, inter alia, the implementation of pilot/demonstration projects aimed at promoting the sustainable development in the region, with emphasis on improving livelihoods for local communities. The secretariat also generates inputs for the national and regional political dialogue aimed at enhancing regional cooperation, and documenting and disseminating best practices for possible replication.

11. In order to foster political commitment, the European Forest Institute took a decisive step towards strengthening its policy support activities by establishing a Policy Support Office in Barcelona, Spain. The Institute launched ThinkForest, a high-level discussion and information-sharing forum on the future of forests. Presided over by Mr. Göran Persson, former Prime Minister of Sweden, ThinkForest is a unique science policy action forum that brings together high-level policymakers and leading European forest scientists to discuss science policy dialogue on strategic forest-related issues. The Institute actively participated in the secretariat of the Intergovernmental Negotiating Committee for a Legally Binding Agreement on Forests in Europe and launched a new publication series, entitled *What Science Can Tell Us*. The first issue, *Water for Forests and People in the Mediterranean — A*

Challenging Balance, was aimed at improving the science policy interface on water and forest interactions and trade-offs. These publications provide unbiased scientific information on issues relating to sustainable forest management.

12. Since 2004, the Institute has coordinated a regional-level multi-year capacity development project on forest policy and economics education and research in the South-East European countries of Albania, Bosnia and Herzegovina, Croatia, Serbia and the former Yugoslav Republic of Macedonia, with nine partner research and education institutions. The project is aimed at fostering a holistic approach to sustainable forest management.

1. Actions to enhance regional cooperation to address illicit international trafficking in forest products through the promotion of forest law enforcement and good governance

13. The African Forest Forum continued to promote Forest Law Enforcement, Governance and Trade (FLEGT) mainly in Southern, Eastern and Western Africa and the Sahel, with commendable progress. The Southern African Development Community (SADC) established two working groups, one to guide the evolution of good forest governance and law enforcement and another to spearhead the formation of a timber association that would oversee legal harvesting and processing of timber and fair trade in forest products. These actions will contribute to improving sustainable forest management by reducing illegality in forest practices; increase incomes at various levels; and reduce deforestation and degradation of forest lands. African Governments also established an intergovernmental institution, namely, the Lusaka Agreement Task Force, which is responsible for reducing and ultimately eliminating illegal trade in wild fauna and flora on the continent. The Task Force facilitates cooperative activities on law enforcement operations; investigates violations of national wildlife legislation; and disseminates and exchanges information on illegal trade activities, capacity-building and awareness-raising. In addition, some countries started implementing FLEGT through voluntary partnership agreements.

14. ASEAN strengthened sustainable forest management by improving its monitoring, assessment and reporting format with agreed criteria and indicators. Its States members developed and agreed to use the online format as a regional reporting mechanism. The ASEAN Declaration of Environmental Sustainability aims to strengthen law enforcement, combating illegal logging and illegal trade.

15. In the Amazon region, the Amazon Cooperation Treaty Organization contributed to strengthening the capacity of forest authorities to address illegal forest-related activities through a regional pilot project, implemented by its permanent secretariat, aimed at developing a regional electronic key for the identification of timber species in the Amazon and a database that allows, through infrared light spectroscopy, the differentiation of apparently similar forest species.

2. Regional and subregional efforts to implement the forest instrument and the impact of the instrument on enhancing forest-based economic development

16. Elements of the forest instrument are contained in the national forest policies, strategies and plans of many African countries. In this regard, the forest instrument has underlined the relevance of those elements and the need to implement them holistically. At the same time, climate change discussions have contributed to

raising the profile of forests and their contribution to addressing the adverse effects of climate change. All elements that constitute the definition of REDD+ are also elements of the forest instrument and as such support that has been and continues to be given through REDD+ and the clean development mechanism (afforestation and reforestation) has enabled many countries, for instance, in Africa to address the forest instrument, albeit indirectly. The forest instrument has also been implemented through climate change support programmes and on-going national programmes relating to other conventions such as the Convention on Biological Diversity and United Nations Convention to Combat Desertification. At the same time, many countries now link national forest plans to overall national development plans and programmes, thereby linking forests to broader national goals and objectives, such as poverty eradication, employment creation, protection of the environment and raising national incomes.

17. During the intersessional period, the permanent secretariat of the Amazon Cooperation Treaty Organization implemented two pilot projects. The first project, implemented with the support of the Amazon Regional Programme, was entitled "Sustainable forest-handling in native forests and legal timber-marketing chains in the centre-south of Equatorial Amazon" and focused on developing a community forest management model. The other, entitled "Strengthening the value chains of natural products from the Amazon in the territory of the Shuar-Transkutukú communities, Province of Morona-Santiago, Ecuador, and the producers association PALMASAD, Madre de Dios, Peru", focused on the production and trade of non-timber forestry products and was aimed at increasing revenue for the Shuar communities.

18. The Amazon Cooperation Treaty Organization also developed an initiative on accountability of the forest sector in national accounts, which is aimed at incorporating forest statistics into national statistics through the establishment of satellite forest accounts that will evaluate economic, social and environmental variables of forests and incorporate them into the national statistics, thereby enabling the measurement of the effective contribution of forests to national economies. The initiative was developed in coordination with the Food and Agriculture Organization of the United Nations (FAO).

19. In an effort to enhance regional cooperation to promote international trade in products from sustainably harvested forests, the Economic Commission for Europe (ECE) and FAO published the *Forest Products Annual Market Review 2011-2012*, a keystone publication that provides general and statistical information on forest product markets in the ECE region (Europe, North America, the Caucasus and Central Asia). Based on the Review, market consultations were held in Geneva in October 2012 to discuss market developments in the ECE region and produce forecasts; discuss policy developments influencing forest products markets; and produce a market statement. The ECE/FAO Forestry and Timber Section was also actively engaged in wood energy work; together with the International Energy Agency and the European Commission, the Section developed a "joint wood energy enquiry", which collects data on both sources and uses of wood and promotes cooperation between the energy and forest sectors, providing a comprehensive framework on the role of wood energy in Member States. In addition, the Section organized various events in the past three years to provide policymakers in the ECE region with a set of views from a wide range of involved sectors to address the economic, social and environmental aspects of the growing demand for and use of wood for energy.

B. Progress towards achievement of the global objectives on forests

20. In the Asia-Pacific region and Europe, progress continued towards the achievement of global objectives 1, 2 and 3. There was a reported increase in forest financing owing, in particular, to the region's efforts and commitment to reverse the decline in official development assistance (ODA) for sustainable forest management, although much of the increase was for a select few countries qualifying for REDD+ financing, and in mobilizing more financial resources for sustainable forest management.

1. Global Objective 1: Reverse the loss of forest cover worldwide through sustainable forest management, including protection, restoration, afforestation and reforestation, and increase efforts to prevent forest degradation

21. During this intersessional period, the African Forest Forum focused on reversing loss of forest cover by directly participating — and supporting the participation of delegates from African countries — in forums, meetings and workshops that address global objective 1. It also continued work on identifying measures to address global objective 1 by undertaking activities that promote sustainable forest management and the restoration of degraded forests through afforestation and reforestation. Other efforts included sensitizing practitioners and policymakers at the national, subregional and regional levels on forest degradation prevention measures. One of its key activities in that regard was generating and disseminating relevant information to all stakeholders in African forests through multiple media channels.

22. The Asia-Pacific Network for Sustainable Forest Management and Rehabilitation launched a national project in Cambodia entitled "Multifunctional restoration and management of degraded forest areas", which was developed and implemented by the Institute of Forest and Wildlife Research and Development. The environmental protection and biodiversity conservation project is aimed at enhancing the country's capacity to restore degraded forestlands in Koh Kong province and community forests in Siem Reap province to improve the local community's livelihoods through the production of timber and non-wood forest products.

23. The Amazon Cooperation Treaty Organization implemented a regional project entitled "Monitoring deforestation, forest use and changes in the use of land in the Pan-Amazon forests", which was aimed at supporting member countries in developing and applying deforestation monitoring systems and forest cover national monitoring plans. The project contributed to building an institutional structure for implementation at both the regional and national levels; close to 45 experts were trained in the use of monitoring systems developed by the National Institute for Space Research. A network across participating institutions was also developed. The first seven national deforestation monitoring plans were completed in early 2013. An initiative to develop a regional protocol on combating and controlling forest fires is also under consideration. Once completed, the protocol will promote the establishment of mechanisms for coordination and joint work between two or more institutions responsible for combating and controlling forest fires in border areas. It will also facilitate cross-border actions to reduce forest cover loss and forest degradation in the Amazon region.

24. The European Forest Institute hosts the European Union REDD Facility, one of several European initiatives to address the underlying drivers of deforestation and forest degradation and foster sustainable forest management in developing countries. Established by the Institute in 2010 with the financial support of the European Commission, the Facility supports developing countries in preparing for and implementing REDD+. It also assists developing countries in meeting their goals in building needed capacity for REDD+, with a focus on improving governance, exploring interactions between the FLEGT and REDD+ processes at the country level and enhancing lessons learned from those interactions. The Facility also informs policymaking by the European Commission and States members of the European Union on REDD+ support to developing countries.

2. Global objective 2: Enhance forest-based economic, social and environmental benefits, including by improving the livelihoods of forest-dependent people

25. In 2012, the Asia-Pacific Network for Sustainable Forest Management and Rehabilitation launched the project "Demonstration of sustainable forest management with community participation in Nepal". The project, which was implemented together with the Federation of Community Forestry Users of Nepal, focused on creating green job opportunities, improving local livelihoods and shaping national forest policy and strategic planning through the establishment of community-based cooperatives and enterprises that reinforce sustainable forest management and biodiversity conservation.

26. In 2011, the ECE/FAO Forestry and Timber Section, in cooperation with the Finnish Environment Institute, the secretariat of the ECE Water Convention, FAO, the United Nations University Institute for Water, Environment and Health, the United Nations Environment Programme (UNEP) and the International Union for Conservation of Nature, prepared a paper entitled "Payments for forest-related ecosystem services: What role for a green economy?"

3. Global objective 3: Increase significantly the area of protected forests worldwide and other areas of sustainably managed forests, as well as the proportion of forest products from sustainably managed forests

27. The African Forest Forum continued to support delegates from African countries in discourses at various levels to raise attention, political commitment and resources to attain global objective 3. The Forum's work on rehabilitating degraded lands will also contribute to efforts in increasing forest cover in Africa. The Forum also plans to strengthen certification capacity in the African forest sector in the short to medium term.

28. Two of the four thematic priorities in the 2011-2015 strategic plan of the Asia-Pacific Network for Sustainable Forest Management and Rehabilitation, namely improving forest management to reduce forest loss and degradation and monitoring progress towards the APEC 2020 forest cover objective are related to increasing forest cover. The activities included in this strategic plan are designed to contribute to increasing the area of sustainably managed forests.

29. A proposal by the Amazon Cooperation Treaty Organization on a regional plan of action for biodiversity in the Amazon region and the organization's programme for protected areas are aimed at contributing to the development of a common regional view and practice in the management of protected areas, with emphasis on

protected areas in border areas and conservation corridors, including in more than one country. The approved programme for protected areas seeks to develop coordination mechanisms and technical and financial instruments to complement the management of national systems of protected areas and to promote joint action with a regional focus for the conservation of biodiversity. Implementation of this programme will also complement national efforts to manage protected areas in the Amazon region.

4. **Global objective 4: Reverse the decline in official development assistance for sustainable forest management and mobilize significantly increased, new and additional financial resources from all sources for the implementation of sustainable forest management**

30. In the African region, emerging issues such as REDD+, the green economy and FLEGT have the potential to reverse the decline in official development assistance for sustainable forest management. However, a broad assessment needs to be done on the impacts of these emerging issues on sustainable forest management funding in Africa.

31. In the Asia-Pacific region, the launch of the Asia-Pacific Network for Sustainable Forest Management and Rehabilitation is an important example of channelling financial resources for the implementation of sustainable forest management. The Network secured a commitment of $15 million over a five-year period from the Government of China for the implementation of sustainable forest management in the Asia-Pacific region. Since 2008, Network co-sponsors such as Australia and the United States of America have also continued to provide financial contributions to the entity. In addition, the Land Resources Division of the Secretariat of the Pacific Community, through the Forests and Trees Team, and with the support of the German Agency for International Cooperation, assists Fiji, Papua New Guinea, the Solomon Islands and Vanuatu in their REDD+ readiness programmes. In September 2011, the Forests and Trees Team, in collaboration with its partners, namely, the German Agency for International Cooperation, the Japan International Cooperation Agency, FAO and the UN-REDD Programme, organized a Pacific regional technical meeting on forestry to discuss various emerging issues, challenges and opportunities, including possible ways forward for forestry in the Pacific. A significant portion of the meeting was devoted to discussing the main themes for a regional policy framework for REDD+, which had been recommended by the Pacific Heads of Forestry in 2009.

C. Millennium Development Goals

32. Since 2004, the European Forest Institute has been implementing a project called "Forest Policy and Economics Education and Research" in South-East European countries. The project has contributed to progress towards the achievement of the Millennium Development Goals, especially on poverty eradication, gender equality, environmental sustainability and global partnership for development. In support of forest-based sustainability and improved forest sector governance and in line with the Bologna process, the project is aimed at the graduation of 40 Master of Science students in forest economics and policy; enhancing the experience of 10 regional university lecturers in modern teaching and research methodologies and improved access to European expert networks; training

15 researchers in modern research methodologies in forest policy science and socioeconomics; and offering short courses to close to 300 professionals in relevant forest policy, governance and economic issues.

Millennium Development Goal 1: Eradicate extreme poverty and hunger

33. In the Asia-Pacific region, through the promotion of community-based forest management, forests have significantly contributed to poverty reduction and the achievement of Millennium Development Goal 1. Indicators to assess contributions of forests to Goal 1 in the Asia-Pacific region include secure forest tenure rights, the utilization of non-timber forest products, the number of forest-based community enterprises and local rural jobs created through those enterprises, an increase in local average income and the improvement of the rural infrastructure. Governments in the region remain committed to halving extreme poverty by 2015 and many have already adopted poverty-related measures in their national forest policies and programmes. The high incidence of poverty in forested areas and the high dependence of the poor on forest resources reinforces the role that forests play in poverty eradication. The publication *Making forestry work for the poor: Assessment of the contribution of forestry to poverty alleviation in Asia and the Pacific* produced by the Asia-Pacific Network for Sustainable Forest Management and Rehabilitation examines the potential of pro-poor forest management in improving livelihoods and helping to achieve Goal 1. This publication was part of a project jointly implemented by the Network and the FAO Regional Office for Asia and the Pacific. It presents key policies and plans relevant to poverty alleviation in 11 target economies and draws attention to the need for concrete measures to support livelihood development at the local level, and includes case studies on community-based approaches and engagement in forest management. These case studies are also relevant to economies with similar conditions.

34. The Amazon Cooperation Treaty Organization has developed initiatives that contribute directly to the achievement of Goal 1, including a regional project on monitoring afforestation, forest use and changes in the use of land in the Pan-Amazon forest, and to the negotiation of an agreement on cooperation to combat forest fires in border areas.

D. Characteristics of regional and subregional cooperation and partnerships in facilitating sustainable forest management

35. Responses from regional and subregional entities also revealed engagement in North-South and South-South cooperation and demonstrated a desire for, inter alia, stronger cooperation capacity-building, scientific research, training and education, promotion of sustainable forest management, and criteria and indicators. Most regions are engaged in the work of the United Nations Forum on Forests and the Collaborative Partnership on Forests.

36. In facilitating cooperation on sustainable forest management, the ECE/FAO Forestry and Timber Section, the Montreal Process, FOREST EUROPE, the Observatory for the Forests of Central Africa and the International Tropical Timber Organization continue to cooperate on opportunities for international and inter-organizational cooperation to streamline the international reporting on forests and forest management. The ECE/FAO team of specialists on monitoring

sustainable forest management provided advice from a regional perspective on several matters relating to the FAO Global Forest Resources Assessment and the Collaborative Forest Resources Questionnaire — the new initiative developed jointly by the FAO, FOREST EUROPE, the International Tropical Timber Organization, the Montreal Process, the Observatory for the Forests of Central Africa and ECE/FAO. At the meeting of the ECE/FAO team of specialists on monitoring sustainable forest management held in May 2012 in Saint Petersburg, Russian Federation, experts supported a proposal for developing a periodic, jointly owned bulletin based on existing initiatives among organizations and countries to improve cooperation among different actors in the pan-European region. The advanced versions of documents for collaborative reporting on forests prepared by all actors involved were discussed and agreed upon at a meeting on "Streamlining forest-based reporting: a collaboration workshop", held in Jacksonville, Florida, from 19 to 23 August 2012, including the overall reporting structure, basic terms and definitions, and the general schedule.

37. In the Asia-Pacific region, forest-related development is uneven and requires coordinated efforts by all forest stakeholders. In order to benefit from technical expertise, the Asia-Pacific Network for Sustainable Forest Management and Rehabilitation has successfully sought the participation, in its projects and activities, of academic institutions in Canada, China, Japan, Indonesia, the Philippines, the Republic of Korea and the United States. The Network would like to see more vibrant international cooperation among different stakeholders to promote sustainable forest management in the region. Although standard codes of conduct on sustainable forest management may be a norm for developed economies, for many emerging and least developed economies, managing techniques may still be lacking.

38. Through its Forests and Trees Team, the Land Resources Division of the Secretariat of the Pacific Community continues to pursue partnerships to strengthen its capacity to support member countries in better managing and using their forest and tree resources.

39. Through the Montreal Process, member countries continue to make a voluntary commitment to work alongside each other to further sustainable forest management and to create a pathway for collaboration and capacity-building. Through its criteria and indicators for sustainable forest management, the Process provides its member countries with an internationally agreed, locally supported tool to integrate issues as they apply to forests; a common ground on which stakeholders, public agencies and countries can work out shared objectives and collaborative actions towards sustainable forest management; a common framework to monitor, assess and report on trends in forest conditions with respect to the full range of forest values and, in turn, on progress towards sustainable forest management; and a network and forum for exchanging knowledge and experience, deliberating policy tools, maintaining awareness of the important role of forests and fostering collaboration among countries with diverse natural, socioeconomic and cultural backgrounds. One of the most notable and valuable achievements of the Montreal Process is the establishment of mutual trust and confidence, which has encouraged the 12 member countries to develop a "network of knowledge". Through discussion, research, cooperation, communication and capacity-building among countries, this network has enabled member countries to make individual and collective progress in tackling new and emerging issues, such as climate change, water, bioenergy and biodiversity.

40. Recently, the Montreal Process formed a new strategic partnership with the International Tropical Timber Organization, FOREST EUROPE and FAO to find innovative ways to streamline global forest reporting, reduce the burden of reporting on countries and promote sustainable forest management. In October 2011, Canada, as Chair of the Montreal Process Working Group, hosted a workshop on international and regional criteria and indicator processes that brought these four organizations/processes together to review their evolution, examine emerging forest issues and explore possibilities to collaborate and to streamline reporting on sustainable forest management. The four bodies recognize the value of working with other processes and organizations to avoid the proliferation of monitoring requirements and associated reporting burdens. They also initiated the development of a joint communications plan to improve communication in respect of sustainable forest management and have met regularly to enhance global collaboration in addressing issues of common interest. Through the International Model Forest Network, a number of countries, including Argentina, Canada, Chile, China and the Russian Federation, are collaborating on methods to demonstrate sustainable forest management using the Montreal Process criteria and indicators. They have found innovative, low-cost and long-term solutions to the challenges facing advocates and practitioners of sustainable forest management. At the same time, participation by Argentina, Chile and Uruguay in the Montreal Process has facilitated communication, consultation and dialogue on global and local forest sustainability among Southern Cone countries. In 2009, these member countries played a key role in the FAO Technical Cooperation Programme project entitled "Strengthening the capacities of the Southern Cone countries for monitoring, evaluating and reporting on progress towards sustainable forest management through the development, use and implementation of criteria and indicators". At the twenty-third World Congress of the International Union of Forest Research Organizations, held in Seoul in August 2010, the Process hosted two technical sessions on reporting on the sustainability of temperate and boreal forests using criteria and indicators. In March 2011, Japan hosted an international seminar entitled "Challenges of sustainable forest management: Integrating environmental, social and economic values of forests in Tokyo. This country-led initiative in support of the United Nations Forum on Forests was co-hosted by Indonesia and co-organized by the Montreal Process, the International Tropical Timber Organization and FOREST EUROPE.

Partnerships with member organizations of the Collaborative Partnership on Forests

41. Partnerships are indispensable tools and bridges for the entity to add value to and leverage resources available for joint programme activities. In Africa, regional economic communities continue to promote collaboration among countries on forest-related issues of relevance to the respective subregions. This is in addition to several initiatives such as FLEGT that have a North-South character. The African Forest Forum and FAO have worked jointly on climate change issues in Africa as well as on work related to the Great Green Wall for the Sahara Initiative and the Sahel Initiative. The World Agroforestry Centre and the African Forest Forum have also collaborated on climate change tasks, including activities related to greening the Sahel.

42. The Asia-Pacific Network for Sustainable Forest Management and Rehabilitation has conducted joint activities with several member organizations of

the Collaborative Partnership on Forests, namely, FAO, the International Tropical Timber Organization and the International Union for Conservation of Nature. In November 2011, the Network co-organized the second Asia-Pacific Forestry Week with the FAO Regional Office for Asia and the Pacific. In October 2012, the Network, the International Tropical Timber Organization and the International Union for Conservation of Nature and other organizations, co-organized the Regional Workshop on Incentives to Catalyse Sustainable Management and Restoration of Mangroves in Asia and the Pacific.

43. In cooperation with FAO, the Secretariat of the Pacific Community supports Pacific island countries in areas relating to the Global Forest Resources Assessment, the report "State of the World's Forest Genetic Resources", and working together through the Asia-Pacific Forestry Commission. Through this Commission, the Forests and Trees Team of the Secretariat of the Pacific Community actively participated in the preparation of *Asia-Pacific Forests and Forestry to 2020: Asia-Pacific Forestry Sector Outlook Study II*; the Team took part in the executive committee and supported the various subregional and national studies. Also through the Commission, it is currently participating in the Asia-Pacific Forest Policy Think Tank, which provides support and assistance to member countries on forest policy analysis and formulation.

44. The Montreal Process has also built linkages with other criteria and indicator processes. As a result of the strengthened relationships and goodwill developed at the workshop held in Victoria, Canada, in October 2011, the Montreal Process, the International Tropical Timber Organization, FOREST EUROPE and FAO endorsed a joint statement in January 2012 to streamline global forest reporting through enhanced collaboration. The joint statement is a milestone in the global process of developing sustainable forest management indicators. It complements the directives adopted at the 2010 meeting of the FAO Committee on Forestry according to which countries would seek ways to converge global reporting approaches to reduce the overall reporting burden. By working together, the Montreal Process, the International Tropical Timber Organization, FOREST EUROPE, FAO, the Observatory for the Forests of Central Africa and the ECE/FAO Forestry and Timber Section, developed the new Collaborative Forest Resources Questionnaire which better aligns global data-collection schedules and requirements. The questionnaire will greatly increase the consistency of global forest data and the efficiency of its collection and dissemination, which will in turn contribute to reducing the reporting burden on countries. Effectively, countries that report to more than one of these bodies can now provide their data once to meet multiple reporting requirements. The goal is to ensure that the data being requested by the FAO Global Forest Resources Assessment is consistent with the data already being reported within the criteria and indicator processes. The closer link between the Global Forest Resources Assessment and the regional and international criteria and indicator processes is also expected to increase the relevance and use of the Assessment. The questionnaire is one of the most tangible, broadly based outcomes to emerge from recent efforts to streamline forest-based reporting. The first global datasets from the questionnaire will be available by 2015 as part of the next Global Forest Resources Assessment. In August 2012, the United States, a member of the Montreal Process, hosted a workshop with the Collaborative Forest Resources Questionnaire partner organizations and the secretariats of the United Nations Forum on Forests, and the Convention on Biological Diversity and the United Nations Framework Convention

on Climate Change. The participants recommended increased interaction with the Collaborative Partnership on Forests Task Force on Streamlining Forest-related Reporting and the secretariats of the Rio Conventions to highlight the value of the forest indicator expertise and information possessed by the regional and international criteria and indicator processes, and to gain greater insight into such emerging issues as biodiversity and climate change and their impacts on sustainable forest management.

IV. Lessons learned

45. Some regional and subregional entities shared lessons learned. For example, greater efforts should be made to demonstrate the relevance of the work done on criteria and indicators at the international level. Interaction among forest-related processes and organizations whose work focuses on forest-related issues should be fostered through flexible initiatives that are tailored to the needs and situations of countries.

46. The development and adoption of the Collaborative Forest Resources Questionnaire as a tool for the joint collection and dissemination of forest data and information is a significant step towards better cooperation among forest data-collection partners for the benefit of multiple users. However, stronger international cooperation is needed to further promote the use of information provided by criteria and indicator processes on sustainable forest management and the gathering, analysing and reporting of data to audiences within and beyond the forest community. In this context, efforts to further develop the establishment of a "forest indicators partnership", namely, a virtual platform for collaboration on forest indicators, may be useful.

47. There is a need to develop and strengthen private sector engagement in the African region in such areas as primary forest production by smallholders (farm forestry), value addition to primary and secondary forest production, forest-water relations, capacity and skills development at various levels, especially with respect to issues relating to climate change, and rehabilitation of degraded lands.

48. FLEGT, especially law enforcement, requires the mobilization of several sectors outside forests where the forest sector lacks convening power. Harmonizing such sectors requires pragmatism (consulting, assigning roles and responsibilities). In addition, since many of these issues are the responsibility of national Governments, there is a need for a platform, resources and mechanisms to bring together stakeholders and resources to implement recommendations.

Annex

Regional and subregional entities providing inputs to the tenth session of the United Nations Forum on Forests

Association of Southeast Asian Nations

Asia-Pacific Forestry Commission

Asia-Pacific Network for Sustainable Forest Management and Rehabilitation

Amazon Cooperation Treaty Organization

African Forest Forum

East African Community

Economic Commission for Europe

European Forestry Institute

FOREST EUROPE

Inter-American Biodiversity Information Network

Montreal Process

Near East Forestry Commission

Network of Parliamentarians for the Sustainable Management of Central African Forest Ecosystems

Secretariat of the Pacific Community

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Forests and economic development

Forests and economic development

Report of the Secretary-General

Summary

The present report provides an overview of the key issues related to forests and economic development. It highlights the economic contributions of forests, cross-sectoral linkages, and demographic, climatic, economic trends affecting the future of forests. The report emphasizes that the material/cash benefits of forests generally tend to be better recognized, while the non-cash contributions of forests, including non-wood forest products, ecosystem services, tourism, and cultural benefits are largely unaccounted for. It identifies data gaps and absence of reliable information as being major challenges in estimating the full extent of the economic contributions of forests to economic development. At the same time, the report highlights opportunities for enhancing forests' contributions including through a landscape approach to land-use planning, promoting the role of landscape restoration including the role of trees outside of forests, and advances in information and communications technologies that can contribute to strengthening the knowledge base for forests and economic development.

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I. Introduction

1. For millenniums, forests have provided land for settlement and cultivation, construction materials, fuel, food and nutrition. Much of the spread of the agricultural revolution depended on the conversion of forests into cultivable land. Forests have played a major role to influence patterns of economic development, support livelihoods and promote sustainable growth, in many countries.

2. Forests cover nearly 31 per cent of the global land area, approximately 4 billion hectares. According to estimates by the Food and Agriculture Organization of the United Nations (FAO), the forestry sector's contribution from roundwood production, wood processing and pulp and paper to GDP is nearly $468 billion annually.[1] Close to 60 million people are employed by forestry-based industries (wood, pulp and paper and other processing plants).[2] Forests provide significant subsistence benefits, generate informal work opportunities, and constitute reservoirs of economic values that help mitigate shocks to household incomes, particularly for the rural poor.

3. The present report has been prepared as a background paper to facilitate discussions during the tenth session of the United Nations Forum on Forests on the theme "Forests and economic development" and provides an overview of the key issues related to forests and economic development. The report has benefited from analysis in three background studies on forests and economic development commissioned by the secretariat of the United Nations Forum on Forests.[3] The conclusions and recommendation pertaining to this theme are contained in the report of the Secretary-General on conclusions and recommendations for addressing key challenges of forests and economic development (E/CN.18/2013/5).

II. Forests and economic development

4. Forests' contributions to economic development show many different patterns of transition across the globe. The basic pattern shows deforestation in conjunction with initial economic growth, followed by a phase during which forest area and cover stabilize, and then slowly begin to recover as secondary forests (see figure 1). The specific reasons for this pattern differ, from changes in the distribution of economic activities from agriculture to industry to service sectors, in other cases owing to government policies aiming to improve forest cover or penalizing illegal extraction, and in yet other cases as a result of the role of international capital and trade. Under all these patterns of loss, stabilization and recovery, the single constant is the significant contribution of forests to international trade, national economies, employment, direct consumption and household incomes, as well as other environmental and social contributions to nations and their people.

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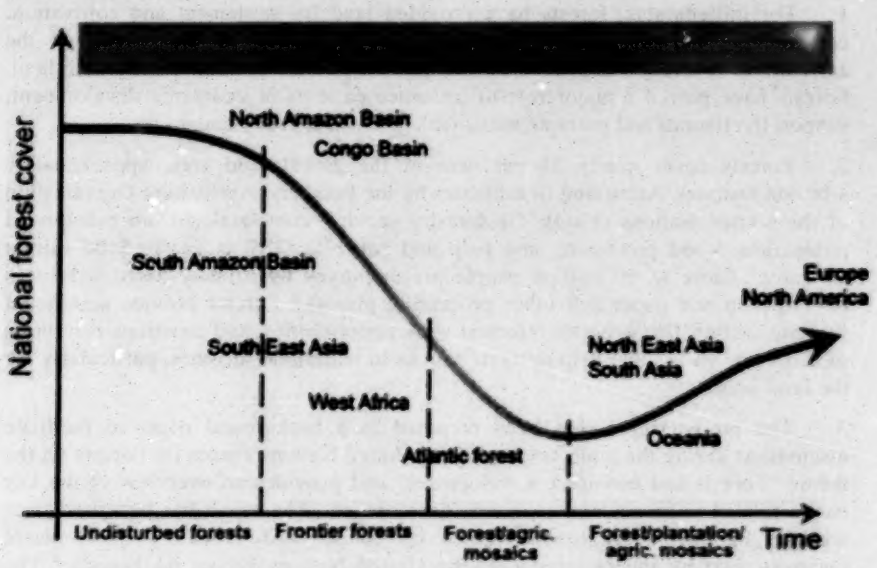
[1] Food and Agriculture Organization of the United Nations (FAO), *State of the World's Forests 2011*.

[2] William V. Street and Sarah Price (2009) "The Forests Dialogue Review: Advancing Poverty Reduction and Rural Livelihoods through Sustainable Commercial Forestry" (Yale School of Forestry and Environmental Studies, New Haven, Connecticut, 2009).

[3] Arun Agrawal and others "Economic contributions of forests"; Uma Lele and others "Changing roles of forests and their cross-sectoral linkages in the course of economic development"; and Arun Agrawal and others "Changing futures, choices and contributions of forests" (all to be published in 2013).

Figure 1
Forest transition curve



Source: Hans Gregersen, Hosny El Lakany, Luke Bailey and Andy White, "The Greener Side of REDD+: lessons for REDD+ from countries where forest area is increasing" (Rights and Resources Initiative, Washington, D.C., 2011).

A. Cash/monetized contributions

5. Since the 1980s, the forestry sector's contribution from roundwood production, wood processing and pulp and paper to GDP has increased to nearly $468 billion,[1] but the relative value of this output in global GDP has dropped from over 1.6 per cent to less than 1 per cent.[4] Similarly, the share of forestry products in merchandise exports has gone down from 3.5 per cent to 2.4 per cent.[4] This decline in the relative and proportionate value of forestry products is mainly attributed to fast growth in other economic sectors. It is worth noting that subnational market figures, even for wood products, have not been the subject of rigorous analysis, and all of this information is largely anecdotal.

6. These direct and formal figures show that the forestry sector is important to GDP, accounting for 0.7 per cent of GDP in 2006 in developing countries of the Asia-Pacific rim, 1.3 per cent in developed Asia-Pacific countries, 1 per cent in North America, 0.9 per cent in Western Europe and 1.2 per cent in Eastern Europe. The highest contribution to GDP in any region is found in sub-Saharan Africa, where forestry accounts for 1.8 per cent.

7. Forests play an even greater role when their contributions are considered as a percentage of exports. In North America, forestry exports accounted for 7.1 per cent of all exports in 1990 and fell to 3.8 per cent in 2006. In developing Asia-Pacific

[4] Arun Agrawal and others "Economic contributions of forests" (2013).

countries, the share dropped by 60 per cent from 3.4 per cent in 1990 to 1.4 per cent in 2006. In sub-Saharan Africa, this figure declined by 47 per cent from 3.6 per cent in 1990 to 1.9 per cent in 2006. Regions that saw increases during the same period include the region of North Africa, Western and Central Asia (0.2 per cent to 0.4 per cent), and Eastern Europe (3.6 per cent to 3.9 per cent), although the percentage of exports peaked in 2000 in Eastern Europe, at 5 per cent.[4]

8. It is important to note that cash and non-cash uses of forests are often so intertwined at the household and community levels that their contributions cannot be easily separated. The cash value of non-wood forest products (such as mushrooms, fruits, medicinal products, shea butter, honey, nuts and oil) is highly variable, by "tradable" value and rarity of the product, by location and by market access.

9. There are differences in the extent of reliance on non-wood forest products at the regional level. In Latin America and Asia, the production of such products from managed forests or farms is more common and income from these often much higher than in non-managed forests. Most African household income from such products tends to be used as a "coping strategy", as even small contributions of non-wood forest products are important in times of emergencies. Such products, including woodcarvings, rattan baskets and furniture, as well as chew sticks, which contribute more than 70 per cent of household income in Africa, are sourced mainly from craft markets, as these products have a large, organized market.[5]

B. Non-cash contributions

10. The material/cash benefits of forests generally tend to be better recognized, while the non-cash contributions of forests, including non-wood forest products, ecosystem services, tourism and cultural benefits are largely "invisible".

11. Non-cash income from forests come from forest products that household collect but consume/use in the home, or trade as barter for other goods and services, rather than selling. These may be fuelwood, timber, forest foods, medicines, fodder or fibre. Country- and region-specific studies indicate that where such data are reliably available, the non-cash economic contributions of forests to household and national economies range between three and five times the formally recognized, cash contributions.[4]

12. Women and children are most often the consumers of natural forest foods. In South Africa, 62 per cent of children supplement their diets with food sourced from natural forests, and 30 per cent rely on these foods for over 50 per cent of their diet.[4] Women benefit from the use and sale of non-wood forest products, as do older or less educated groups,[6] but their role in the non-wood forest products value chain

[5] Terry Sunderland, Susan Harrison and Ousseynou Ndoye, "Commercialisation of non-timber forest products in Africa: history, context and prospects" in *Forest Products, Livelihoods and Conservation. Case studies of Non-Timber Forest Product Systems*, Terry Sunderland and Ousseynou Ndoye, eds., vol. 2, Africa (Center for International Forestry Research, Indonesia, 2004).

[6] F. Paumgarten and C. Shackleton, "The role of non-timber forest products in household coping strategies in South Africa: the influence of household wealth and gender", *Population and Environment*, vol. 33, No. 1 (2011).

is rarely acknowledged.[7] The data on these vital values has not been systematically captured or studied.

13. A study by FAO in Uganda demonstrates that forests provide fuelwood for local energy consumption, which accounts for 40 per cent of the local economy, and the non-cash component is three times the value of the cash component (see the table below).[8]

Annual value of forest products to rural people in Uganda

	Cash		*Non-cash*		*Value of all forest products*	
Forest products by category	*(Millions of United States dollars)*	*Percentage*	*(Millions of United States dollars)*	*Percentage*	*(Millions of United States dollars)*	*Percentage*
Fuel	406	10.1	1 186	29.5	1 592	39.6
Building materials	346	8.6	655	16.3	1 001	24.9
Forest foods	241	6.0	510	12.7	752	18.7
Fibre (for ropes, baskets, mats etc.)	68	1.7	257	6.4	326	8.1
Herbal medicine	44	1.1	145	3.6	189	4.7
Timber	32	0.8	129	3.2	161	4.0
Total	**1 137**	**28.3**	**2 882**	**71.7**	**4 019**	**100**

Source: Gill Shepherd, Cornelius Kazoora and Daniel Müller, "Forests, livelihoods and poverty alleviation: the case of Uganda", paper prepared for FAO, July 2012.

C. Employment

14. Forests provide substantial levels of employment in the formal (13 million people) and informal forest sectors (45 million people). Some estimate that small- and medium-sized forest enterprises contribute more than 50 per cent of forest-related jobs in many developing countries.[9] It is important to note that the number of people who benefit from forests through employment, forest products and direct or indirect contributions to livelihoods and incomes ranges between 1 billion and 1.5 billion.[4] The data, however, remain largely unstudied.

15. Small- and medium-sized forest enterprises also provide significant employment and income opportunities for women as proprietors.[10] In Northern Ghana, 77 per cent of proprietors of such enterprises are women. At the same time, those enterprises

[7] S. Shackleton and others, "Opportunities for enhancing poor women's socioeconomic empowerment in the value chains of three African non-timber forest products", *International Forestry Review*, vol. 13, No. 2 (2011).

[8] Gill Shepherd, Cornelius Kazoora and Daniel Müller, "Forests, livelihoods and poverty alleviation: the case of Uganda", paper prepared for FAO, July 2012.

[9] Duncan Macqueen, "Supporting small forest enterprises: a cross-sectoral review of best practice" (International Institute for Environment and Development, 2008).

[10] Kwabena Nketiah and others, "Forest Connect Ghana: progress and impact" (2011) and Paul Osei-Tutu and others, "Hidden forestry revealed: Characteristics, constraints and opportunities for small and medium forest enterprises in Ghana" (2010), in *Supporting small forest enterprises: reports from the field* (Ghana) (International Institute for Environment and Development series).

are often overlooked and isolated from formal markets and thus tend to stay in the informal unassessed forest sector.[9]

D. Forests in rural development as pathways out of poverty

16. Forests provide indirect, yet reliable, pathways out of poverty and build livelihood resilience. For poor populations in remote areas, forests can gradually help move the chronically poor to the sometimes poor, and the sometimes poor to the non-poor.[11] The shift of balance between forest dependence and agriculture may often be the prelude to poverty reduction, and also correlates to the unsustainable use of forests. The intensification of agriculture and the resultant change in forest use may sometimes be a 20-year process.[12]

17. In rural households, a much greater proportion of forest income goes to support direct consumption rather than cash income. Thus the forests' primary role in rural households is to provide energy security, shelter and furnishings, medicinal use, food, nutritional security and subsequently, health. All of these aspects of forest income reduce the vulnerability of households and increase livelihood resilience. Forests' vital role in fulfilling these fundamental needs provides rural households with a secure basis from which they can further seek income-generating opportunities through agriculture, employment, investment in livestock or tree-planting, thus alleviating poverty, providing food security and overall stability.

18. In Uganda, forest-based cash income, primarily from the sale of fuelwood and charcoal (36 per cent of total cash income), house-building materials (30 per cent) and forest foods (21 per cent) is used by local communities to invest in livestock and school fees.[8] This is true of many other least developed countries and developing economies.

19. Often, rural communities find pathways out of poverty through a dual strategy that makes the best possible use of the synergies between forests and agriculture. In tropical dry forests, the pathway out of poverty is often achieved through investment in cattle, using forest products as fodder. In tropical moist forests where forest fallows are important in the agricultural cycle, fallows are often slowly enriched and turned into high-value tree crop stands over time. This has been the pattern throughout South-East Asia, as multistorey forest gardens testify, and is one of the strategies now being employed in Papua New Guinea.[4]

20. On the island of Anjouan in the Comoros, communities have converted the lower slopes of mountains almost entirely into agroforestry areas, combining such high value tree-crops as cloves and ylang-ylang with domestic fruit trees such as mango and breadfruit. A similar process has been undertaken, in a different ecological context, in the hills of Doi Mae Salong, in north-west Thailand. In each case, forest function is maintained, with a different mix of tree species, and with opportunities for poverty reduction which simultaneously maintain, or indeed improve, forest cover.[4]

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[11] For further information, see research conducted by the Chronic Poverty Research Centre, and by W. D. Sunderlin and others (2005, 2007 and 2008), as noted by Arun Agrawal in "Economic contributions of forests".

[12] Gill Shepherd, contribution to the series on "Livelihoods and landscapes strategy" of the International Union for Conservation of Nature (2012).

III. Cross-sectoral linkages

21. In recent decades, forests have been at the cross-roads between environmental, social and developmental challenges in many countries. Reconciling these often competing needs is critical as demand for food, fibre, energy and water continue to increase. Available data indicate that demand for water and energy will increase even more rapidly than demand for food and agricultural products, as incomes rise and populations move to urban areas, thereby putting more pressure on land use. To reduce pressures on forests, evidence-based cross-sectoral interventions are critical, including those related to agriculture, water, energy, transport and mining, among others. The sectors discussed below do not constitute an exhaustive list of all sectors that interact with forests.

A. Forests and agriculture

22. Since the 1960s, agriculture has predominantly been identified as a key driver of deforestation. While there have been few systematic studies on interactions between forests and agriculture, available data suggest that subsistence and commercial agriculture contribute roughly equally to deforestation in Africa and in Asia, and identify commercial agriculture as a main driver of deforestation in Latin America.[13]

23. Urbanization is associated with shifts in food consumption, as populations moving to cities tend to have higher incomes and consume more processed foods and animal products than rural dwellers.[14] Such changes in consumption encourage large-scale commercial agricultural production in rural areas, spurring forest conversion to pastures for livestock and cropping.

24. There is a growing debate on the merit of increasing agricultural productivity through agricultural intensification, and its impacts on forests. While higher agricultural productivity has been important in some developing countries to meet food demand, increased financial returns from agricultural land may provide incentives for further land clearing and deforestation.[15] Over the past two decades, a number of developing countries, including China, India and Viet Nam, have expanded national forest areas, largely as a result of a combination of increases in agricultural productivity, greater reliance on international trade in agricultural products, and by setting aside degraded marginal lands for reforestation.[16]

25. Globally, the task of understanding the interaction between forests and agriculture has been further constrained by the fact that data on agriculture and forests are maintained by separate ministries in most countries. For example, the literature on total factor productivity growth in agriculture does not take into account the environmental consequences of productivity growth, whether on forest land conversion or the impact on water and soils.

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[13] Uma Lele and others "Changing roles of forests and their cross-sectoral linkages in the course of economic development" (2013).

[14] Ruth De Fries and others, "Deforestation driven by urban population growth and agricultural trade in the twenty-first century", *Nature Geoscience*, vol. 3, No. 3 (2010).

[15] Karine Belna and Romain Pirard, "Agriculture and deforestation: state of knowledge and the gap with REDD-plus activities", in *Forest Policy and Economics* (forthcoming).

[16] Eric F. Lambin and Patrick Meyfroidt, "Land use transitions: socio-ecological feedback versus socioeconomic change", *Land Use Policy*, vol. 27, No. 2 (2010).

B. Forests and water

26. Forested catchments provide three quarters of fresh water used for household, agricultural and industrial needs.[17] Deforestation has direct impacts on the hydrologic cycle and has been linked to the increased occurrence of floods, soil erosion, sediment concentration and water pollution, among others. As forested catchments have competing needs from households, agriculture and industries, a key challenge is to maximize the wide range of multisectoral forest benefits without detriment to water resources and ecosystem functions. Many countries have begun to develop integrated water resource management plans at the watershed or river basin levels.

27. Payments for watershed service schemes, a subset of payments for environmental services, have gained popularity as a tool to improve the efficiency of watershed management in several middle income countries, including in China, Costa Rica and Mexico.[13] Many payments for watershed service schemes include forest conservation, regeneration or plantations by providing an incentive to upstream land users to adopt practices that ensure the supply of environmental services to downstream land users.

28. Climate change is altering the role that forests play in regulating water flows and influencing the availability of water resources. In semi-arid areas where climate change threatens water resources, large-scale forest planting has the potential to exacerbate water shortages. This is an important factor as there is an increased focus on planted forests for carbon sequestration, renewable energy, and wood supply alternatives to natural forests, including landscape restoration.

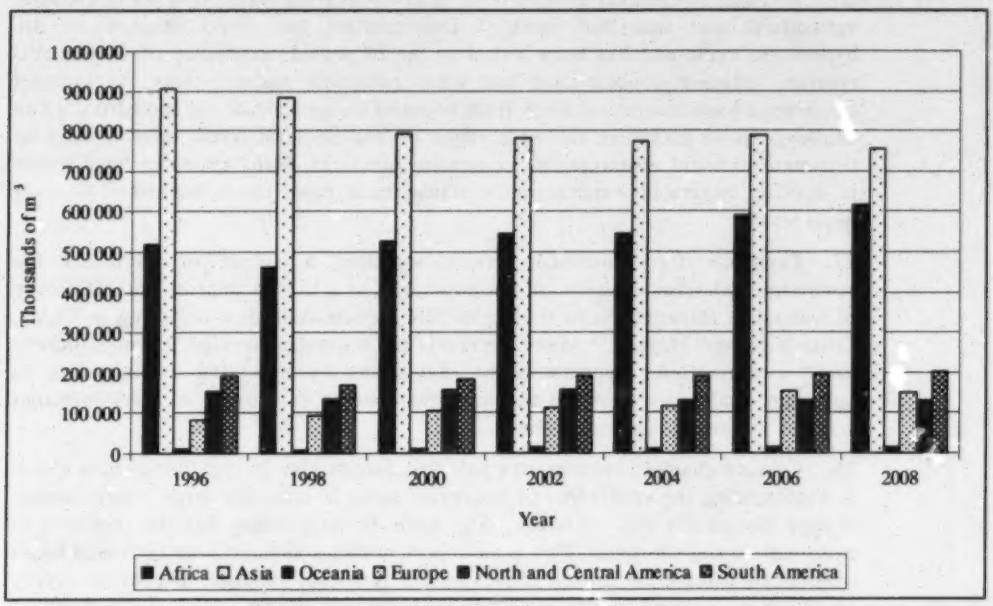
29. Existing climate data do not generally include microclimatic effects and the role of forests and trees. To better understand regional climate drivers, further data and information is needed on how specific land cover change, including in forest lands, affects the water cycle.

C. Forests and energy

30. Globally, over 3 billion people, approximately 43 per cent of the world's population, are dependent on fuelwood.[13] Regions with the greatest incidence of poverty, in particular in sub-Saharan Africa and Asia, are the most dependent on fuelwood (see figure 2). Developing countries account for nearly 90 per cent of fuelwood and charcoal consumption, and wood is the primary source of energy for cooking and heating in those countries. The differences among countries in terms of dependence on fuelwood may be explained by a combination of factors, including: (a) availability of other energy sources; (b) higher standard of living; (c) reduced share of population living in poverty and hunger; (d) increased wages and employment; and (e) increased opportunity costs for women's labour, as women are the primary collectors of fuelwood.

[17] Andreas Fischlin and others, "Ecosystems, their properties, goods, and services", in "Climate Change 2007: Impacts, Adaptation and Vulnerability", contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (2007).

Figure 2
Fuelwood consumption by region (1996-2008)



Source: Data adapted from FAO, *State of the World's Forests* (1997-2011).

31. Given that 95 per cent of all staple foods need to be cooked to be consumed, an affordable and sustainable supply of energy for cooking is crucial. Nearly 3 billion people in the developing world use traditional cookstoves and open fires to cook.[18] Women and children are disproportionately affected, both in terms of their health from exposure to air pollution and their security when searching for biomass in insecure areas. The practical need for cooking fuel is often underestimated by donors and aid agencies when providing food supplies (e.g., rice) as aid.

32. As forest plantations for energy production become more common, there are increasing concerns about the trade-offs related to bioenergy use, particularly its effects on forests, carbon dioxide emissions and indirect land use effects. Competition over land for food, fibre and fuel is likely to increase, and research has been interpreted by some as indicating that the production of bioenergy will contribute to significant deforestation and increased food prices.

D. Forests and transport

33. Transportation infrastructures, particularly roads, directly and indirectly contribute to deforestation. The construction of roads may result in forest clearance, while the roads themselves may contribute to deforestation by opening up forests to

[18] World Bank, "Household cookstoves, environment, health, and climate change: a new look at an old problem" (Washington, D.C., 2011).

agriculture or logging, facilitating human settlement in previously uninhabited areas or increasing access to the forest for non-wood forest products.[19]

34. Forest clearance for transportation infrastructures can result in associated negative impacts on biodiversity, ranging from increased erosion to edge effects. When roads cut across previously forested landscapes, they fragment the landscape, resulting in smaller patches that produce edge effects, which results in changes in community structure, declines in biomass and negative impact on wildlife and other species.[20]

35. While roads contribute to deforestation, the construction of roads is often promoted for agricultural development, rural development and poverty alleviation. The placement of rural roads, including feeder roads, can have positive effects on rural incomes.[21]

36. Different transport options need to be considered to reduce the impact of the transport sector on forests. For example, rail transportation can reduce the impact on forests by allowing a greater control of access to the adjacent land by limiting the construction of new secondary roads.

E. Forests and mining

37. Mining in forest areas often accelerates deforestation and forest degradation. Forests and mineral rich areas tend to overlap, resulting in the need to clear forests for mining purposes. Mining results in forest and land conversion, habitat fragmentation and associated negative biodiversity effects. According to available data, it is estimated that 75 per cent of active mines and exploration areas occur in areas of high conservation value and high watershed stress.[22]

38. Mining also has a significant impact on forests by altering forest type. The clearing of edge forests for mining converts adjacent interior forest to edge forest, thereby contributing to the loss of interior forest, which alters the ecological composition, functions and structure of forests.

39. Mining often opens up forests to human activities through the construction of roads and leads to erosion, facilitates logging activities, and contaminates soil, groundwater and surface water. Mining can thus indirectly contribute to the loss of non-wood forest products and affect the livelihoods of local populations who depend on the forests for food, medicine and craft and construction material.

40. Forest regeneration following mining tends to be slower than regeneration following other land uses, as mining often causes higher levels of disturbance by turning over the soil and eliminating seeds, roots and tree saplings.

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[19] Alexander S. P. Pfaff, "What drives deforestation in the Brazilian Amazon? Evidence from satellite and socioeconomic data", *Journal of Environmental Economics and Management*, vol. 37, No. 1 (1999).

[20] David Wilkie and others, "Roads, development, and conservation in the Congo basin", *Conservation Biology*, vol. 14, No. 6 (2000).

[21] Kenneth M. Chomitz and David A. Gray, "Roads, Land Use, and Deforestation: A Spatial Model Applied to Belize", *World Bank Economic Review*, vol. 10, No. 3 (1996).

[22] Marta Miranda and others, "Mining and Critical Ecosystems: Mapping the Risks" (World Resources Institute, 2003).

F. Forests and health

41. Forests represent natural pharmacies with rich stores of plant, animal and microbial material with known or potential medicinal values. In the United States of America, half or more of prescribed medicines originate from natural sources,[23] and 70 per cent of all new drugs introduced in the United States in the past 25 years have been derived from natural products.[24]

42. The World Health Organization estimates that between 65 per cent and 80 per cent of the world's population rely on naturopathic or homeopathic medicines that derive from forests as their primary form of health care. One of the advantages of forest products is that they are often freely accessible or affordable sources of medicine for populations that might otherwise be unable to afford medicine or lack access to formal health-care services.

43. Deforestation and forest fragmentation also affect the emergence of new infectious diseases, owing to increased human contact with wildlife.[25] For example, in the United States, increased risk of Lyme disease has been attributed to deforestation and forest fragmentation in the north-east of the country.[26] Deforestation can also lead to the replacement of benign vector species with a more effective disease vector. In parts of South-East Asia and the Amazon, the *Anophelese* mosquito species have replaced benign native species, resulting in more virulent strains of malaria following deforestation.[23] The connection between forests, altered landscape and infectious diseases is not only of public health concern, but also associated with significant economic consequences. The outbreak of such communicable diseases carries high human and economic costs.

44. The relationships between forests and disease are complex and targeted, strategic management of forests and landscape can help prevent the spread of infectious diseases. In Italy, for instance, reforestation to reclaim swampland helped control malaria in the early twentieth century.[27]

IV. Key trends affecting the future of forests

45. Trends in the global economy, demography and climate have direct implications for the contributions of forests to economic development. Rapid economic change and movement of capital and labour across boundaries create changing patterns of supply and demand, and consumption and production, which in turn affect forests. Demographic changes, not just in the rising number of people, but also through migration, shifts between rural versus urban location, and the age and class composition of people, will shape the forests of the future. In addition, climate change mitigation and adaptation actions are inextricably interlinked with forests, from changes in temperature and precipitation, to how forests can help offset emissions. The interplay of these forces has brought the issue of resource scarcity to the forefront.

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[23] Eric Chivian and Aaron Bernstein, eds., *Sustaining Life: How Human Health Depends on Biodiversity* (Oxford, Oxford University Press, 2008).

[24] David J. Newman and Gordon M. Cragg, "Natural Products as Sources of New Drugs over the last 25 Years", *Journal of Natural Products*, vol. 70, No. 4 (2007).

[25] Walter V. Reid and others, "Millennium Ecosystem Assessment" synthesis report (2005).

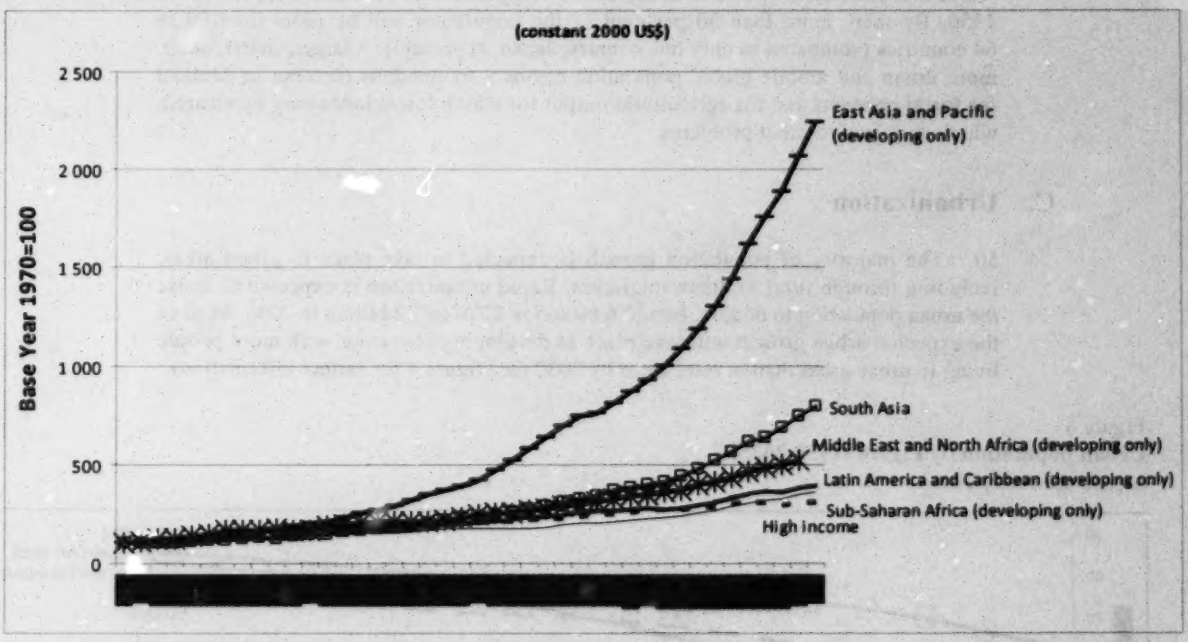
[26] Eeva Karjalainen and others, "Promoting human health through forests: overview and major challenges", *Environmental Health and Preventive Medicine*, vol. 15, No. 1 (2010).

[27] FAO, "Forests and human health", *Unasylva*, vol. 57, No. 224 (Rome, 2006).

A. Global economic growth

46. During the period from 1990 to 2010, the world experienced accelerated global economic growth and increased trade volumes, including in agriculture and forest products, despite the economic downturn that started in 2008 (see figure 3). This global economic growth was driven by developing countries in all regions. Such economic growth, together with rising per capita income and a global population predicted to reach 9 billion by 2050, has direct implications for the pressure on natural resources, including forests.

Figure 3
Global GDP growth by region (1970-2011)



Source: World Bank, *World Development Indicators and Global Development Finance* (Washington, D.C., 2011).
Note: data for the Middle East and North Africa is not available for the year 2011.

47. Economic growth also drives new investment in infrastructure development in developing countries, particularly the contiguous tropical forest countries of the Amazon and the Congo Basins and in South-East Asia. For example, mining and gas investments related to roads and pipelines alone are estimated to be worth upwards of $5 trillion to $10 trillion.[28]

[28] Ian Bannon and Paul Collier, eds., *Natural Resources and Violent Conflict: Options and Actions* (Washington, D.C., World Bank, 2003); Johanna Carstens and Gavin Hilson, "Mining, grievance and conflict in rural Tanzania", *International Development Planning Review*, vol. 31, No. 3 (2009); Denis M. Tull, "China's engagement in Africa: scope, significance and consequences", *Journal of Modern African Studies*, vol. 44, No. 3 (2006).

B. Demographic changes

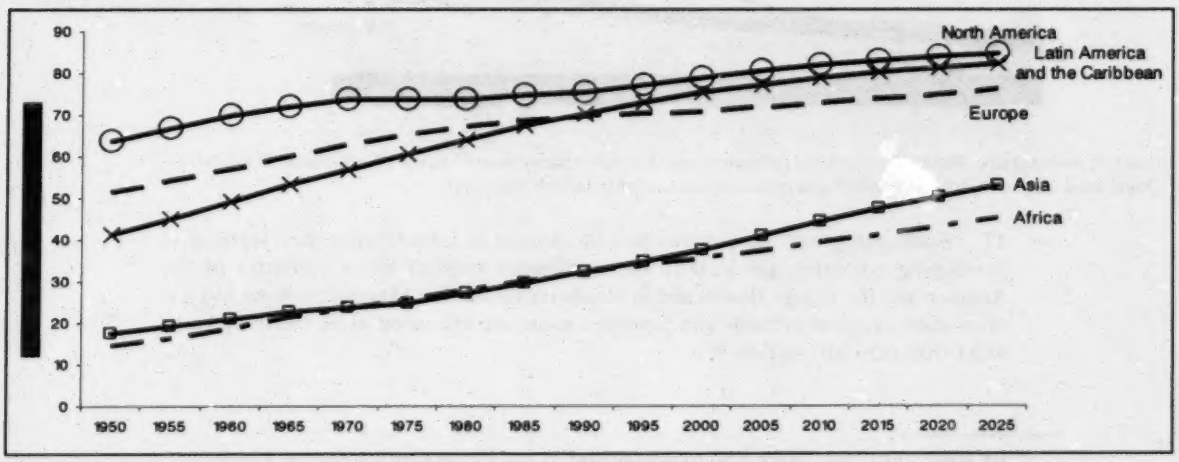
48. Demographic changes are creating more demand and pressure on forests and natural resources in general. The increase in the global population over the past half century has resulted in changes in the demographic structure in terms of age and class, as well as settlement and migration patterns that directly affect forests. The global population is expected to increase by up to 3 billion in the next three decades, with much of this increase occurring in developing countries.[29]

49. In addition to rapid growth, there are other demographic dynamics at play. 2009 was the first time in human history that the number of people living in cities edged above rural populations. It is estimated that by 2030, 60 per cent of the world's population will live in urban areas, compared with less than 30 per cent in 1950. By then, more than 30 per cent of the population will be older than 80 in 64 countries (compared to only one country, Japan, at present). A larger, richer, older, more urban and mobile global population means a tremendous increase in demand for forest products and for agricultural output for which forest lands may be cleared, which may lead to other problems.

C. Urbanization

50. The majority of population growth is expected to take place in urban areas, including through rural to urban migration. Rapid urbanization is expected to cause the urban population to double, from 2.6 billion in 2010 to 5.2 billion in 2050. Most of the expected urban growth will take place in developing countries, with more people living in urban areas than in rural areas by 2030 (see figure 4 for further information).

Figure 4
Urban population by region (1950-2025)
(as percentage of total population)



Source: United Nations, *World Urbanization Prospects: the 2011 revision* (2012).

[29] United Nations, *World Population Prospects* (2011).

51. As urbanization accelerates globally, forests increasingly contribute to meet growing urban demand for food, water and environmental services. Urbanization and income growth have been associated with increased food demand and changing consumption patterns, typically increasing caloric consumption and shifting to crops and products of higher value, which are often more water-consuming, including livestock, fisheries, fruits and vegetables.

52. In many developing countries, forests also provide vital energy sources to the growing urban population. For example, wood represents 80 per cent of domestic fuel in Nigeria and 3.5 million inhabitants in Abuja depend on wood extracted from natural forests, forest plantations and other available sources in urban and peri-urban areas within a radius of 80 km to more than 100 km.[30]

53. The contributions of urban forests and trees outside forests to both physical and mental health are less frequently captured. Visits to forests improve human health by providing physical exercise opportunities and reducing mental stress. Studies have shown that individuals who spend time in forests can recover from fatigue and focus better, as well as showing improvements in mood and stress level.[26] Some countries have explicitly encouraged the link between forests and physical and mental health through specific programmes. [31]

D. Food security

54. Forests directly contribute to food and nutritional security. In Uganda, rural communities rely on forest foods to provide much needed protein, vitamins and minerals otherwise lacking in the carbohydrate-rich farm diet. Herbal medicines from forest products alone are worth $189 million annually to rural Ugandans, representing nearly 60 per cent of the national health-care budget. Forest food accounts for 19 per cent of forest income and for 8 per cent of all food consumed and sold in Uganda, including that from agricultural production.[8] However, relevant global projections have yet to be made.

55. At the regional level, high rates of global poverty and food insecurity are primarily concentrated in South Asia and sub-Saharan Africa. In sub-Saharan Africa and low-income countries in Asia, deforestation pressures stem from smallholder farming and fuelwood needs. In comparison, in Latin America and other parts of Asia, the pressure on forests comes mainly from commercial farming.

E. Forests and climate change

56. Forests store large amounts of carbon through trees, understorey vegetation and soils. Globally, forests contain more than 650 gigatons of carbon, greater than the amount of carbon in the entire atmosphere.[32] Deforestation and forest degradation is

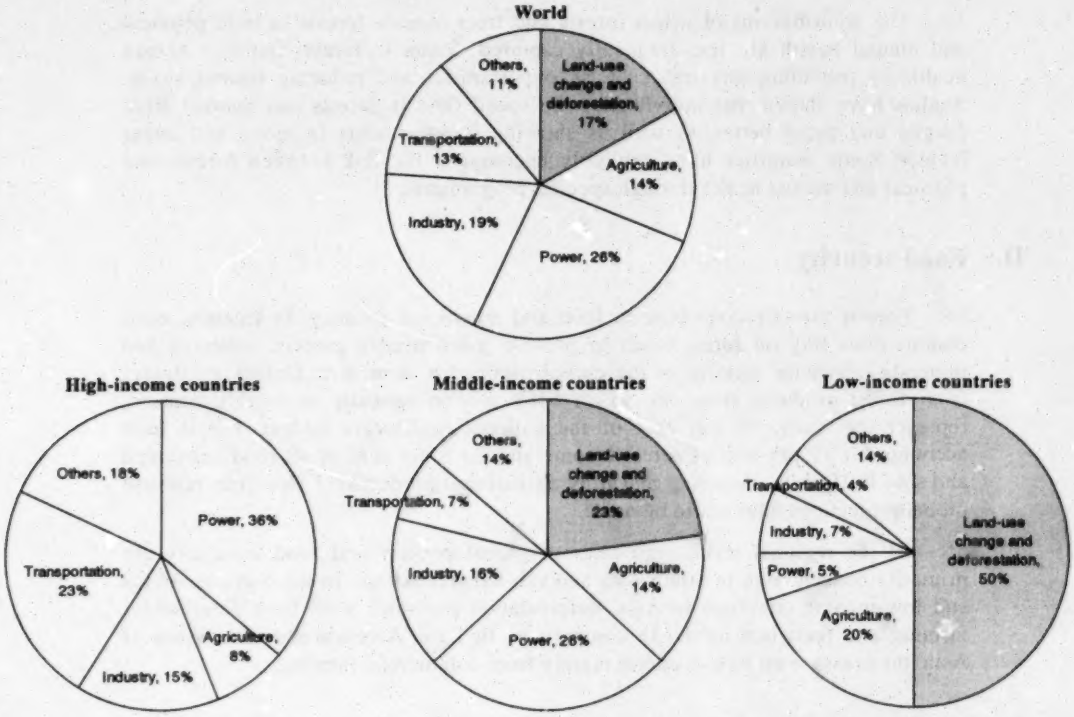
[30] FAO, "Urban and peri-urban forestry in Africa: the outlook for woodfuel", Urban and peri-urban forestry working paper No. 4 (Rome, 2012).

[31] The Green Gym programme in the United Kingdom of Great Britain and Northern Ireland encourages physical activity through environmental and gardening work. Japan has designated specific forests as forest therapy bases in recognition of their relaxing effects on people. See also the study by Eeva Karjalainen and others (2010).

[32] FAO, *Global Forest Resources Assessment 2010* (Rome, 2011).

estimated to contribute 17 per cent of global greenhouse gas emissions.[33] The estimated average global rate of forest carbon depletion is 1.6 gigaton per year or about 0.25 per cent of total forest carbon. As illustrated in figure 5 below, the level of greenhouse gas emissions from land-use change and deforestation varies when compared with different stages of development. On the global level, land-use change and deforestation accounts for 17 per cent of total greenhouse gas emissions. However, this percentage goes up for middle- and low-income countries (23 per cent and 50 per cent, respectively).

Figure 5
Deforestation and land-use change in greenhouse gas emissions — development comparison



Source: World Bank, *World Development Report 2010: Development and Climate Change* (Washington, D.C., 2010).

57. At the same time, climate change has significant effects on forests, including its impact on the extent of forest resources, biological diversity, forest health and vitality and productive and protective functions of forest resources. Depending on geographic location, original climatic conditions, species diversity and human activities, changes in temperature and precipitation also affect the frequency and

[33] World Bank, *World Development Report 2010: Development and Climate Change* (Washington, D.C., 2010).

intensity of forest fires and outbreaks of pest infestations, extreme weather conditions, and alterations in the populations of plant and animal species.[34]

58. These climate change impacts adversely affect the productivity of land and water resources, particularly in tropical regions. It could also ultimately lead to a shift in the production and processing of forest products from tropical countries to temperate countries (see E/CN.18/2009/4).

F. Forests and natural disasters

59. The impact of natural disasters on economies and societies is immeasurable. There is growing recognition of the linkages between sustainable forest management and disaster risk reduction. Forest resources and services play an important role in reducing human vulnerability to natural disasters. Forests stabilize slopes to prevent landslides, protect coastal communities against tsunamis and restore wetlands to maximize flood regulation while safeguarding biodiversity and livelihoods.[35]

60. Recent studies revealed that coastal forests can contribute to the mitigation of the impact of tsunamis.[36] For example, the assessment of the impact of the Indian Ocean tsunami of 2004 provided evidence that the clearing of mangrove forests increased the exposure of coastal communities to the disaster. In Viet Nam, the mangrove forest along approximately 200 km of coastline has recently been reforested in an effort to protect local communities against waves, wind and typhoon damage.

G. Competing pressures

61. Considering the above factors of increasing global demands for food, water and energy and the dwindling supply of natural resources, we are faced with a scenario of competing pressures, which could raise the prices of land and agricultural crops and increase incentives for more land for commodities.

62. Agricultural commodities account for more than 30 million hectares of new land under cultivation since the 1990s, much of the expansion occurring on forested lands. Commodity prices have risen by more than 50 per cent since the beginning of the century, despite a recession (see figure 6). The sustainability of forests and the economic viability of forest products will be influenced in large measure by how Governments, producers and consumers manage the future expansion of agricultural commodity production.

63. Tropical landscapes in which agriculture and forests meet present key conservation and development challenges. On the one hand, the conservation of remaining tropical forests in these landscapes is necessary to maintain biodiversity, mitigate carbon emissions from deforestation, maintain forest-based resources for local livelihoods and sustain key ecosystem services. However, increased food

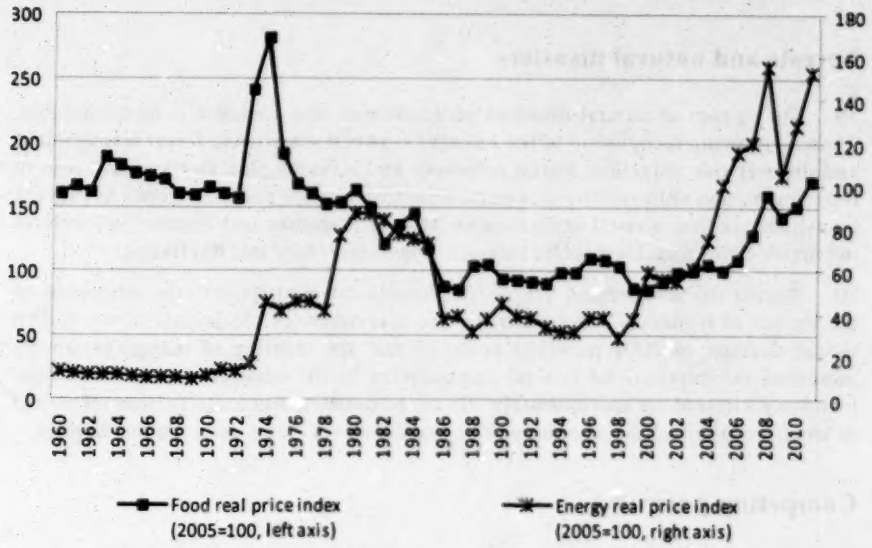
[34] FAO, "Forest Management and Climate Change: a literature review", Forests and Climate Change Working Paper 10 (Rome, 2012).

[35] United Nations Environment Programme, "Opportunities in environmental management for disaster risk reduction: recent progress", a practice area review in contribution to the Global Assessment Report on Disaster Risk Reduction (2012).

[36] Keith Forbes and Jeremy Broadhead, "The role of coastal forests in the mitigation of tsunami impacts" (Rome, FAO, 2007).

production is needed to feed a larger global population, provide subsistence and income-generating opportunities for agriculture-based local livelihoods, and support trade in agricultural commodities.

Figure 6
Food and energy real price indices (1960-2011)



Source: Brian D. Wright, "The economics of grain price volatility", *Applied Economic Perspectives and Policy*, vol. 33, No. 1 (2011).

64. The quest for more food, energy and resources driven by demographic changes and resource scarcity has resulted in a change in the ownership and control of massive areas of land, close to perhaps 100 million hectares, in developing countries, especially in sub-Saharan Africa.

V. Challenges in enhancing economic contributions of forests

65. In many cases, it is not the monetary wealth that forests can provide but the welfare they offer that is so important. Many of the non-wood forest products case studies show how profoundly forests underpin local livelihoods. They are not just for hard times, but are of daily value for people, regardless of gender, class, geography and income levels. For all rural women and for most rural men apart from the very wealthiest, the livelihood and subsistence needs drawn from forests are far more important than their wood values.

66. If the contribution of the forestry sector to GDP alone is in the neighbourhood of $468 billion per year, it is projected to be two to three times greater for benefits that are not included in GDP figures. While the total number of people employed in the formal forestry sector is around 13 million, the number of people employed in the informal sector for forests is closer to 45 to 50 million. These indicative

numbers for the relationship between the size of the formal versus the informal forest sector are sufficient to indicate that the informal sector is far larger than the formal, cash-valued forest sector.

67. Forests contribute to the ecosystem services that people depend on, such as climate regulation and water purification, and it remains a challenge to place a monetary value on these vital services. Different economic valuation strategies,[37] such as restoration cost method or constructed market techniques based on "willingness to pay", estimate the economic value of ecosystem services from forests to be trillions of dollars. However, enhanced analysis and data on these values are needed.

68. Data on various aspects of forests in relation to other social, economic and institutional indicators are inconsistent and cannot be compared across countries and regions. But even if the available data allows only a blurry picture, the information is sufficient to infer that non-cash forest benefits are far larger than those derived from high-visibility forest products such as timber, paper and pulp.

69. Therefore, better systematic forest data is needed, particularly on the non-cash and informal benefits forests generate through non-wood forest products. Because the value of such products is likely to be two to three times greater than that of products exchanged for cash, and because those products are critically important as buffers during periods of scarcity and as nutrition for populations who are cash poor, better information on them is needed to manage their supply and distribution more effectively, as well as policies which recognize and support these functions.

70. Emerging data collection technologies based on mobile devices and new methods to gather information could be mobilized to create a better picture of the distribution of non-cash benefits from forests in space and time, as well as across different social groups. Collaboration across different government and multilateral agencies to integrate datasets and create a more systematic picture of the role of forests is vital.

71. Such multipronged efforts are critical to improved measurement, calculation and analysis of the economic contributions of forests. Good forest governance is a critical enabler for sustainable forest management and is dependent on political commitment, accurate data and information on forest resource changes, and effective enforcement of forest laws and regulations, among other considerations. Thus, advancements in information and knowledge are essential for better and more efficient governance of forests, which will in turn contribute to changing laws and policies.

VI. Key opportunities for forests and economic development

A. A landscape approach to land-use planning

72. Integrated approaches to landscape management aim to increase synergies among multiple land-use objectives where the role of forests and trees, and the goods and services they provide, are better understood by all stakeholders and

[37] For details, see the report of the Secretary-General on scientific research, forest assessment and development of criteria and indicators for sustainable forest management (E/CN.17/IPF/1996/7).

viewed from a broader perspective, encompassing forests and forestry along with agricultural productivity, soil protection, water supply and distribution, biodiversity conservation, and other values. Planning on a landscape level will matter far more in the future, as the complexity of land-use changes increases to meet growing demand for food, energy and water; while balancing these needs with ecosystem services. A landscape approach takes into account different areas of the natural and human, and urban and rural landscape, which are interconnected and driven by common processes.

73. Cross-sectoral policies that encourage sustainable forest management and incorporate social, environmental and economic aspects, including livelihood requirements, are essential to recognizing the non-material benefits of forests. It has been reported that over 50 countries already have inter-institutional mechanisms for cross-sectoral cooperation to achieve sustainable forest management (see E/CN.18/2013/2). For instance, policies that recognize the role of forests in providing food and protein sources can address sustainable forest management and food security at the same time.

74. National forest programmes can serve as a cross-sectoral platform to integrate other sectors such as agriculture and water into forestry programmes. For example, the Programme on the Sustainable Development of the Rhine, a transboundary initiative, adopted afforestation and forest conservation measures to facilitate water retention and prevent floods in nearby downstream areas (see E/CN.18/2011/5). In its national report to the tenth session of the Forum, Israel documents the launch by the Israeli Forest Service, Keren Kayemeth LeIsrael, of a policy that encouraged the adoption of sustainable forest management practices for planted forests and developed methods to harvest run-off water for planted forests.

75. National forest programmes can also provide a mechanism for cross-institutional coordination and stakeholder engagement. In its national report to the tenth session of the Forum, Nigeria explains that the national forest programme has been used as the key entry point for establishing contacts among government departments, donors and stakeholders and to build a cross-institutional platform for harnessing forest resources for national economic development and poverty alleviation.

76. A landscape approach to understanding land transitions can help identify specific opportunities for enhancing social, economic and environmental benefits. In New York, the city government was faced with a choice between building a new water filtration plant for drinking water at the cost of between $6 billion and $8 billion or paying landowners in the Catskills $1 billion to protect watersheds; the city government chose to pay for the environmental services of protecting the watershed.[38]

B. Restoration: the role of trees outside of forests

77. The Global Partnership on Forest and Landscape Restoration[39] estimates that nearly 2 billion hectares of land, half the of the world's official areas of forest, offer

[38] See the report of the Biodiversity and Ecosystems Panel of the President's Committee of Advisors on Science and Technology, "Teaming with Life: Investing in Science to Understand and Use America's Living Capital" (1998).

[39] The Global Partnership on Forest and Landscape Restoration has 19 partner organizations and is supported by the 13 Governments worldwide.

potential for restoration. Increasingly, such areas will be where most forests will be located and, in parallel, where more people will be located, therefore their improved and sustainable management is essential.

78. Large areas of so-called degraded forestlands can become more productive and deliver higher levels of goods and services than they do at present. Agroforestry and farming systems present opportunities for more intensive planting and use of tree products for food, feed and other commodities. They also provide scope for building small enterprises, backed by associated research and policy, to support improved production, management and post-harvest processing and marketing, and ultimately to enhance benefits for the poor and disadvantaged.

79. Trees in semi-arid areas and drylands, by roadsides, on farms, and in urban areas provide many of the services and economic benefits that people need from forests: firewood, fodder, timber, emissions reduction and other services. Relieving pressure on contiguous areas of forests can then help support other functions that such forest areas provide, such as protection of biodiversity, controlling erosion and maintaining the water cycle. The mosaics of cropland, pastures, agroforestry, tree plantations and remnants of natural forests are increasingly likely to play major roles in meeting human and social needs for wood and other functions of forests.[40]

C. Information and data management

80. A critical obstacle in demonstrating economic contributions of forests is the absence of data and information on the full scope and value of forest benefits. Current forest-related data does not take into account economic activities and benefits from forests that are (a) not exchanged for cash, (b) in the informal sector, and (c) not recognized by forest, economic development, trade or finance authorities. Improvements in the systematic collection and analysis of such data are necessary if the full extent of the economic contributions from forests are to be recognized.

81. Systematic data on the full extent of forest benefits and how these benefits contribute to poverty reduction will help decision makers recognize the key economic contributions of forests. Both developing and developed countries often lack the information about how forests are linked to other sectors such as agriculture, energy and water. More effective use and decision-making based on forest-related data, however, depends on the capacity to connect biophysical data with social, institutional and policy data.

82. Valuation methodologies that reflect forest goods and services represent yet another avenue for recognizing the material and non-material benefits of forests. Similarly, national accounting that incorporates data on forest products related to environmental and recreation services and fodder, food, fuel and medicinal values would facilitate better documentation of the full value of forests, and thus contribute to sustainable management in its full sense.

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[40] Center for International Forestry Research, World Agroforestry Centre, Bioversity International and International Center for Tropical Agriculture, "Forests, trees and agroforestry: livelihoods, landscapes and governance — proposal", February 2011. Available from www.cifor.org/fileadmin/fileupload/crp6/CRP6_7feb_lowres.pdf. See also Janet Ranganathan and Craig Hanson, "A new approach to feeding the world", September 2011. Available from http://insights.wri.org/news/2011/09/new-approach-feeding-world.

83. The World Bank Group's report on the Environment Strategy 2012-2022, "Towards a green, clean, and resilient world for all" highlights the need to take into account natural capital and the value of ecosystem services, including for oceans and marine biodiversity, in economic decisions. To do so, it will be necessary to incorporate these values in national accounting systems for capturing natural resource capital.[41]

84. A study by the Organization for Economic Cooperation and Development (OECD), "OECD environmental outlook to 2050: the consequences of inaction", highlights some of the key research priorities for addressing ecological, biophysical and technological knowledge gaps. These include such areas as soil carbon, strategies for adaptation to climate change, sustainability and drivers of wood supply, short rotation coppice and rural land use, non-forest wood supply and wood for energy. It is important to note that the reporting guidelines for financing flows to forestry as determined by OECD are narrower than the scope of the work of the Forum on forest finance.

85. Better forest data and information could ultimately inform consumers and businesses about the sourcing of commodities and raise awareness about zero-deforestation commodities and sustainably produced products, as well as relevant procurement policies.

86. Some of the biggest consumer goods companies have already voluntarily adopted mandatory requirements for sustainable production and responsible sourcing for a range of forest-risk commodities, such as palm oil, soya, beef and cocoa. Unilever, the world's largest buyer of palm oil, has a commitment to the sustainable sourcing of all its agricultural raw materials by 2020 and will purchase all palm oil from certified sustainable sources by 2015. Nestlé has committed to ensuring that all its raw materials sourced in forest areas have not led to deforestation. The Consumer Goods Forum, which represents companies with annual revenues over $3 trillion, has pledged to help achieve zero net deforestation by 2020.

87. Building a knowledge base of the full extent of forests' contributions to economic development requires rethinking production-centred values and benefits through a more holistic approach, which takes into account the full range of social, economic and environmental services that forests provide. It also requires more effective measurement of the value of forests and the reflection of those values across sectors and institutions. Further details, including relevant conclusions and recommendations, are contained in the corresponding report of the Secretary-General (E/CN.18/2013/5).

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[41] The System of Environmental-Economic Accounts, which was adopted by the Statistical Commission, provides an internationally agreed method, on par with the current System of National Accounts, to account for such material natural resources as minerals, forests and fisheries. Wealth Accounting and the Valuation of Ecosystem Services, a partnership facilitated by the World Bank, is helping to implement natural capital accounting based on the System of Environmental-Economic Accounts.

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Item 5 of the provisional agenda*
Forests and economic development

Conclusions and recommendations for addressing key challenges of forests and economic development

Report of the Secretary-General

Summary

The present report sets out conclusions and recommendations for the consideration of the United Nations Forum on Forests in addressing key challenges in the context of the overall theme of the tenth session, "Forests and economic development", based mainly on the report of the Secretary-General on forests and economic development (E/CN.18/2013/4). Forests make significant contributions to international trade and economies, provide vital subsistence benefits and constitute reservoirs of social, economic and environmental values.

In order to further enhance the contributions of forests to economic development, a number of actions and policies are needed at the local, national and international levels. The range of policy actions include the promotion of cross-sectoral and cross-institutional collaboration, the further integration of sustainable forest management into national economic development strategies, and capacity-building for systematic forest data and information, particularly on the non-cash and informal benefits that forests contribute to economic development.

* E/CN.18/2013/1.

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I. Introduction

1. Forests cover nearly 31 per cent of the global land area, at approximately 4 billion ha.[1] They provide vital subsistence benefits, generate formal and informal work opportunities and constitute reservoirs of social, economic and environmental values that help build the resilience of communities, particularly the rural poor.

2. Forests make significant contributions to international trade and economies at all levels. The formal forestry sector's contribution to global gross domestic product (GDP) (from roundwood production, wood processing and pulp and paper) is estimated to be nearly $468 billion annually.[2] Close to 60 million people are employed by forest-based industries (wood, pulp and paper and other processing plants).[3]

3. Forests' contributions to rural economies and households tend to be through the direct consumption and barter of forests products, which provide energy, shelter and furnishings, medicine and food security and support health. While rural populations rely more heavily and directly on forests, what urban populations gain from forests — clean water, energy, building materials for housing and health benefits, among others — is no less vital.

II. Conclusions

A. Forests and economic development

4. The material and cash benefits of forests generally tend to be better recognized, while the non-cash contributions of forests, including non-wood forest products, ecosystem services, tourism and cultural benefits, are largely invisible. Non-cash income from forests comes from forest products that households collect but consume or use in the home or, rather than sell, trade as barter for other goods and services.

5. Since the 1980s, the formal forestry sector's contribution to GDP from roundwood production, wood processing and pulp and paper has increased to nearly $468 billion, accounting for nearly 1 per cent of total global GDP. However, it is important to note that the informal forest sector is far larger than the formal, cash-based sector and that the value of the informal, non-cash benefits could be two to three times greater than the GDP figures.

6. The non-cash contributions of forests, including non-wood forest products, ecosystem services, medicinal uses, tourism and cultural benefits, are generally unaccounted for in national economic planning and international data. Part of the challenge is that the cash and non-cash uses of forests are often so intertwined at the household and community levels that their contributions cannot be easily disaggregated.

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[1] Food and Agriculture Organization of the United Nations (FAO), *Global Forest Resources Assessment 2010* (Rome, 2010).

[2] FAO, *State of the World's Forests 2011* (Rome, 2011).

[3] William V. Street Jr. and Sarah Price, "The Forests Dialogue review: advancing poverty reduction and rural livelihoods through sustainable commercial forestry", The Forests Dialogue Publication No. 4 (New Haven, Yale School of Forestry and Environmental Studies, 2009).

7. Furthermore, the cash value of non-wood forest products, such as mushrooms, fruits, medicinal products, shea butter, honey, nuts and oil, varies highly by "tradable" value and rarity of the product, location and market access.

8. While the role of forests in rural development is not yet well recognized, studies have shown that forests provide indirect yet reliable pathways out of poverty.[4] In particular, rural communities often utilize a dual income-generating strategy that capitalizes on synergies between forests and agriculture, including through investment in livestock and agroforestry.

B. Cross-sectoral linkages

9. As the global demand for food, fiber, energy and water continues to drive development priorities, forests are often caught between competing needs for economic, social and environmental goods. In a globalized world with finite resources, developments in non-forest sectors have a direct impact on forests. At the same time, the contributions of forests through sustainable forest management have a positive impact on and offer solutions for other sectors. Some of the key sectors that directly interact with the forest sector include agriculture, water, energy, transport and mining.

10. Agriculture has been the primary driver of deforestation since the 1960s and continues to drive deforestation in Latin America, Africa and Asia.[5] It is likely that mosaics of cropland, pastures, agroforestry, tree plantations and natural forests will play a major role in the future, meeting the need for both agricultural and forest products.[6]

11. Three quarters of the freshwater used for household, agricultural and industrial needs is provided through forested catchments.[7] Some countries have developed integrated water resource management plans at the watershed or river basin levels, which take into account the role of forests in filtering and regulating water flows.

12. More than 3 billion people globally are dependent on fuelwood for cooking and heating.[5] Developing countries account for nearly 90 per cent of the consumption of fuelwood and charcoal. The demand for energy will continue to put pressure on forests until sustainable cost-effective energy alternatives are found.

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[4] Gill Shepherd, Cornelius Kazoora and Daniel Müller, "Forests, livelihoods and poverty alleviation: the case of Uganda", paper prepared for FAO, July 2012.

[5] Uma Lele and others, "Changing roles of forests and their cross-sectoral linkages in the course of economic development", background paper prepared for the United Nations Forum on Forests, 2013.

[6] Center for International Forestry Research, World Agroforestry Centre, Bioversity International and International Center for Tropical Agriculture, "Forests, trees and agroforestry: livelihoods, landscapes and governance — proposal", February 2011. Available from www.cifor.org/fileadmin/fileupload/crp6/CRP6_7feb_lowres.pdf. See also Janet Ranganathan and Craig Hanson, "A new approach to feeding the world", September 2011. Available from http://insights.wri.org/news/2011/09/new-approach-feeding-world.

[7] Martin Parry and others, eds., *Climate Change 2007: Impacts, Adaptation and Vulnerability* (Cambridge, United Kingdom, Cambridge University Press, 2007).

13. Roads often contribute to deforestation by opening up forests to agriculture or logging and facilitating settlement in uninhabited areas.[8] At the same time, they play a role in agricultural and rural development and poverty alleviation, which need to be balanced with the long-term impacts on forests. Such an approach should be utilized for other sectors as well.

14. Forests and mineral-rich areas often overlap. For example, approximately 75 per cent of active mines and exploration areas are found in areas of high conservation value and high watershed stress.[9] Mining in forest areas often accelerates land conversion, habitat fragmentation and the loss of biodiversity.

15. Forests have a direct impact on human health. Between 65 and 80 per cent of the global population relies on naturopathic or homeopathic medicines derived from forests as its primary form of health care, according to estimates by the World Health Organization. Over 50 per cent of prescribed medicines originate from natural sources.[10] At the same time, deforestation and forest fragmentation are linked with the emergence of new infectious diseases.[11]

C. Key trends affecting the future of forests

16. Rapid economic change and the movement of capital and labour across boundaries create varying patterns of supply and demand, as well as changes in consumption and production. The interplay of these factors has a profound impact on forests. Economic growth is expected to continue to drive new investment in infrastructure, especially in developing countries. Investment in roads and pipelines for the mining and gas industries alone is estimated to be $5 trillion to $10 trillion or more.[12] This trend is particularly relevant for the contiguous tropical forest countries of the Amazon, the Congo Basin and South-East Asia.

17. Demographic changes are increasing demand for and pressure on natural resources, including forests. Urbanization and income growth are linked to increased demand for food and caloric consumption, along with a shift to higher-value crops and products, such as livestock, fisheries, fruits and vegetables. Meeting the needs of a larger, richer, older, more urban and mobile global population will thus require increases in forest and agricultural productivity, which may require more forest area to be cleared.

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[8] Alexander S. P. Pfaff, "What drives deforestation in the Brazilian Amazon? Evidence from satellite and socioeconomic data", *Journal of Environmental Economics and Management*, vol. 37, No. 1 (1999).

[9] Marta Miranda and others, *Mining and Critical Ecosystems: Mapping the Risks* (Washington, D.C., World Resources Institute, 2003).

[10] Eric Chivian and Aaron Bernstein, eds., *Sustaining Life: How Human Health Depends on Biodiversity* (New York, Oxford University Press, 2008).

[11] Walter V. Reid and others, *Millennium Ecosystem Assessment 2005: Ecosystems and Human Well-being — Synthesis* (Washington, D.C., World Resources Institute, 2005).

[12] Ian Bannon and Paul Collier, eds., *Natural Resources and Violent Conflict: Options and Actions* (Washington, D.C., World Bank, 2003); Johanna Carstens and Gavin Hilson, "Mining, grievance and conflict in rural Tanzania", *International Development Planning Review*, vol. 31, No. 3 (2009); Denis M. Tull, "China's engagement in Africa: scope, significance and consequences", *Journal of Modern African Studies*, vol. 44, No. 3 (2006).

18. Carbon stored in trees, understorey vegetation, biomass and soil is estimated at 650 billion tons, which exceeds the amount of carbon currently in the atmosphere.[13] Deforestation and land-use change account for 17 per cent of total human-generated carbon dioxide emissions. Climate change has a significant impact on forest biodiversity, forest health and the productive and protective functions of forest resources.

19. Forests play an important role in building human resilience against natural disasters: they safeguard biodiversity and livelihoods, stabilize mountain slopes to prevent landslides, protect coastal communities against tsunamis and restore wetlands to maximize flood regulation.[14]

D. Challenges in enhancing the economic contributions of forests

20. In general, the most important contributions of forests to economic development are not in the form of monetary income, but rather in what they provide for the welfare of marginalized and vulnerable forest-dependent communities. This is particularly true for the very poor in rural areas, for whom the livelihood and subsistence benefits from forests are far more critical than timber values. Forests also provide multiple ecosystem services, such as climate regulation and water purification, and it remains a challenge to place a monetary value on these vital services. These values are often overlooked and not quantified.

21. Better systematic forest data are needed, particularly on the non-cash and informal benefits that forests generate, including through non-wood forest products and ecosystem services. Because the value of such goods and services is significantly larger than that of cash-based products, they serve as buffers during periods of scarcity and as nutrition for the cash-poor. Furthermore, advances in information and knowledge, including on cash and non-cash values, are essential preconditions for better governance and greater political support for forests in order to contribute to changing laws and policies.

E. Key opportunities for forests and economic development

22. As land-use planning continues to adapt to meet the growing demand for food, energy and water, landscape-level planning at the national and subnational levels to balance competing needs will matter far more in the future.

23. Integrated approaches to landscape management aim to increase synergies among multiple land-use objectives, so that goods and services from forests and trees are better understood and there is recognition of the interlinkages between forests and agricultural productivity, soil protection, water supply and distribution, biodiversity conservation and other sectors. National forest and equivalent programmes have an important role in this regard, as they can serve as a cross-sectoral platform to integrate other sectors, including agriculture and water, into forest management plans and programmes.

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[13] FAO, *Global Forest Resources Assessment 2010*.

[14] United Nations Environment Programme, "Opportunities in environmental management for disaster risk reduction: recent progress". Available from www.preventionweb.net.

24. Nearly 2 billion ha of land worldwide offer potential for restoration,[15] which can enable large areas of currently degraded forest lands to be productive, deliver goods and services and relieve pressure on contiguous areas of forests. Agroforestry and related systems present opportunities for more intensive planting and the use of tree products for food, feed and other commodities.

25. Current forest-related data do not take into account economic activities and benefits from forests that are (a) not exchanged for cash; (b) in the informal sector; and (c) not recognized by forest, economic development, trade or finance authorities. The systematic collection and analysis of such data are necessary to promote the recognition of the full extent of the economic contributions from forests.

26. Better forest data and information could ultimately inform consumers and businesses about the sourcing of commodities and raise awareness about zero-deforestation commodities and sustainably produced products, as well as relevant procurement policies.

III. Recommendations for consideration by the United Nations Forum on Forests

A. Member States

27. **The Forum may wish to encourage Member States:**

(a) To re-emphasize the importance of the cross-sectoral nature of sustainable forest management, its interconnections with other sectors in addressing issues related to economic development, in particular poverty alleviation and sustainable livelihoods;

(b) To promote cross-sectoral and cross-institutional collaboration through a landscape approach at the national and subnational levels that brings together forest-dependent communities, the private sector and local governments and share lessons learned in implementing a landscape approach to assist in achieving sustainable forest management;

(c) To further integrate sustainable forest management into national economic development strategies through national forest programmes and natural resource planning processes;

(d) To strengthen the recognition and evaluation of the full range of forest values, including through natural resource accounting, and improve capacities for data and information collection and analysis to better assess the impact of land-use changes on forests, the cash and non-cash contributions of forests to economic development and their cross-sectoral linkages;

(e) To further strengthen North-South and South-South cooperation for knowledge-sharing and capacity-building on forests and economic development.

[15] Global Partnership on Forest and Landscape Restoration, www.ideastransformlandscapes.org.

B. Members of the Collaborative Partnership on Forests

28. The Forum may wish to invite members of the Collaborative Partnership on Forests:

(a) To assist Member States, upon request, in developing strategies and building capacities in data gathering and analysis that integrate forests and other sectors;

(b) To develop a road map for the harmonization of the collection and compilation of data on forest resources, including non-wood forest products, in order to facilitate the estimation of the full extent of forest resources, building on existing efforts, including the Collaborative Forest Resources Questionnaire of the Food and Agriculture Organization of the United Nations (FAO), the Wealth Accounting and the Valuation of Ecosystem Services partnership, the Economics of Ecosystems and Biodiversity, the Green Economy Initiative, the System of Environmental-Economic Accounting, the OECD green growth strategy and the Poverty-Environment Initiative of the United Nations Development Programme and the United Nations Environment Programme;

(c) To further enhance cross-sectoral approaches in forests and other natural resource programmes, including building on the work of the Global Partnership on Forest and Landscape Restoration, as a means of instituting effective land-use systems.

C. Donors and regional and international organizations

29. The Forum may wish to invite donors and regional and international organizations, including the Forum secretariat:

(a) To provide financial resources, assist with the capacity development of and technology transfer to developing countries and countries with economies in transition, in particular low forest cover countries, small island developing States, countries in Africa and least developed countries, to support their efforts to gather information and data on forests and economic development, including cross-sectoral benefits, non-cash forest benefits (including non-wood forest products) and ecosystem services;

(b) To provide financial resources to support members of the Collaborative Partnership on Forests in strengthening their existing data collection and analysis efforts on a long-term basis in order to improve data availability on forests, including non-wood forest products, in a continuous, systematic, coordinated and coherent manner;

(c) To provide financial resources to support the Forum's facilitative process in addressing information and data gaps related to forests and economic development, as part of its intersessional activities in preparation for the eleventh session, to be held in 2015, in collaboration with countries and members of the Collaborative Partnership on Forests.

D. Major groups

30. **The Forum may wish to call upon major groups, in particular civil society, the private sector and the scientific and technological communities:**

(a) **To promote cross-sectoral and cross-institutional collaboration through a landscape approach at the national and subnational levels, working with forest-dependent communities and local governments and sharing lessons learned in implementing a landscape approach to the sustainable management of forests;**

(b) **To contribute to data and information collection and analysis through independent research and relevant studies on the impact of land-use changes on forests, the cash and non-cash contributions of forests to economic development and related laws and policies that need innovation to capture cross-sectoral linkages and impacts.**

E. Forum secretariat

31. **The Forum may wish to request its secretariat:**

(a) **To continue to perform a leadership role in evaluating and maintaining data and information on forest functions and values, including at the national and subnational levels;**

(b) **To build partnerships and a programme of work with economic organizations, including the World Bank, and regional banks and invite them to work collaboratively with the Forum to further integrate forests into their economic programmes;**

(c) **To contribute to the Wealth Accounting and the Valuation of Ecosystem Services programme headed by the World Bank;**

(d) **To conduct activities to address information and data gaps related to forests and economic development as part of the intersessional activities of the Forum's facilitative process in preparation for the eleventh session, to be held in 2015, in collaboration with countries and members of the Collaborative Partnership on Forests;**

(e) **To significantly strengthen its partnership with the private sector in the global North and South;**

(f) **To further refine and streamline forest reporting at the national and subnational levels and working with economic data collection and analysis processes, in particular by building on the existing collaboration with FAO and broadening it to other members of the Collaborative Partnership on Forests with reporting functions in economic areas (cash and non-cash), including the secretariats of the Convention on Biological Diversity and the United Nations Convention to Combat Desertification, the World Bank and the United Nations Environment Programme;**

(g) To contribute to the United Nations-led post-2015 development agenda and sustainable development goals processes to fully integrate the cash and non-cash values and functions of forests, recognizing the economic, social and environmental aspects of forests;

(h) To develop innovative tools to communicate the contributions of forests to economic development, in particular poverty eradication, and engage decision-makers in further considering forest-related concerns in international and national policy agendas, including the post-2015 development agenda.